TEXTILE TECHNOLOGY DIGEST

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ABSTRACTS

FIBERS A

AERODYNAMIC PROPERTIES OF TEXTILE FIBERS. K. Higuchi and T. Katsu. J. Textile Machy. Soc. Japan 13, No. 11: 771-775 (1960). In Japanese (English summary). Through BCIRA 41: 178 (1961).
The relationship between Reynolds number of textile fibers and the drag coefficient of air has been studied by measuring the terminal velocity of fibers (single fibers and fiber bundles) at dropping freely in still air. (1354)

EFFECT OF WEATHERING ON THE PROPERTIES OF VARIOUS TEXTILE FIBERS. PART 3. J. Lünenschloss and H. Kurth. Textil-Praxis 15, No. 11: 1146-1150 (1960). In German. Through BCIRA 41: 253 (1961).
The percentage changes in the degree of polymerization and various fiber properties of textile materials exposed to weathering tests (3, 6, 9, and 12 months) are presented, and methods of artificial weathering are discussed. For previous parts see abstr. 872/61 and 930/61. (1355)

Natural fibers A1

CHARACTERISTICS OF RAW COTTON. E. Lord. The Textile Institute and Butterworths, Manchester & London, 1961. 333 p. Manual of cotton spinning, v. 2, pt. 1. Available from Textile Book Publishers, Inc., 250 Fifth Ave., New York 1, N.Y. $8.50.
Contents: Structure of the cotton fiber; Commercial assessment of staple length; Laboratory measurement of fiber length; Fiber maturity; Fiber fineness; Combined fineness/maturity tests; Mechanical properties of cotton fibers; Bundle strength of cotton; Measurement of trash content; Classification by grade; Other aspects of cotton character; Making a mixing. This book was written primarily as a textbook for the student. (1356)

SYSTEMATIC BREEDING OF SOVIET COTTON. H. Langer and H. P. Hartenhauer. Textil-Praxis (English ed.) No. 4: 145-154 (Dec. 1960).
The planned cotton growing program of the U.S.S.R. is based on ten selective groups. The classification system used, the fiber evaluation factors on which it is based, and some of the more important varieties are described. 17 refs. (1357)

COTTON CROP NEWS: DELTAPINE MOVES UP. F. L. Gerdes. Textile World 111: 68-70 (Mar. 1961).
The reasons for an increasing trend to growing Deltapine cotton in California and Arizona are analyzed. (1358)

GINNING OF COTTON IN THE UNITED STATES. J. Gutknecht. Coton Fibres Trop. 15, No. 1: 81-130 (1960). In French. Through BCIRA 41: 332 (1961).
In a series of articles, the author discusses the historical development of ginning machines, the effect of agricultural practices on the characteristics of cotton seeds and certain fiber properties, the equipment for and methods of ginning and their effect on the fiber quality, and the research laboratories studying the ginning of cotton. 19 refs. (1359)

COTTON FIBER WEIGHT DISTRIBUTION. T. Chytiris (Hellenic Cotton Bd. Technol. Lab., Athens), E. W. S. Calkins (U.S. Rubber Co.), R. L. N. Iyengar (Indian Central Cotton Comm.), and L. A. Fiori, J. E. Sands, G. L. Louis, and J. D. Tallant (So. Utilization Research & Develop. Div.). (Letters to the editor). Textile Research J. 31: 175-180 (Feb. 1961).
Further discussion on the subject of fiber fineness distribution according to fiber length group. See also abstrs. 3670/59, 3426/60, and 3427/60. (1360)

PHYSICAL PROPERTIES OF WOOL FIBERS AT VARIOUS REGAINS. PART 1. STRESSES DEVELOPED AT CONSTANT STRAIN DUE TO REGAIN CHANGE BY ABSORPTION OR DESORPTION. A. R. Haly and M. Feughelman (C.S.I.R.O. Wool Research Labs.). Textile Research J. 31: 131-134 (Feb. 1961).
The paper reports determinations of stress changes which take place in wool fibers held at constant extension of 1.5 or 20% and subjected to various relative humidity changes. Stresses may be very different according as equilibrium at a given relative humidity is approached by absorption or desorption of water by the fiber. At 1.5% strain, when approach was by absorption, for all relative humidities used the stress fell to a level lower than when the fiber was in water and then increased. A qualitative explanation is given in terms of changes analogous to sol-gel transformations. 6 refs. (1361)

PHYSICAL PROPERTIES OF WOOL FIBERS AT VARIOUS REGAINS. PART 2. RECOVERY FROM EXTENSION. A. R. Haly and M. Feughelman (C.S.I.R.O. Wool Research Labs.). Textile Research J. 31: 135-140 (Feb. 1961).
Under all conditions of extension and relative humidity which were used, length recovery took place in two stages: an early, rapid recovery was followed by a slow recovery which was, in most circumstances, linear with log (time). The amount of rapid recovery depends on the stress in the fiber at the instant of release. Recovery from 20% strain is greatly accelerated as relative humidity increases above 60%; this is probably due to a sharp increase in the amount of "free" water in the wool fiber. Recovery from 1.5% strain is different in character, and the reason may be that the recovery from low strain contains a large elastic component. 6 refs. (1362)

SEMI-AUTOMATIC BALING MACHINE FOR WOOL TOPS. Medway Paper Sacks Ltd. Textile Recorder 78: 61 (Feb. 1961).
A new machine for packing wool tops into paper sacks is described. (1363)

Manmade fibers A2

FIBER TABLES: SYNTHETIC FIBERS. P.-A. Koch. Z. ges. Textil-Ind. 62, No. 21: 913-920 (1960). In German. Through BCIRA 41: 7 (1961).
This tabulated review contains definitions of polymerization, polycondensation, and polyaddition compounds; historical development; types, raw materials, principles of production and trade names of synthetic fibers; spinning methods; chemical constitution; cross-section; properties and uses; and important publications. 23 refs. (1364)

ON CHANGES IN THE WEIGHT DISTRIBUTION FUNCTION OF ARTIFICIAL FIBERS DUE TO RANDOM FIBER BREAKAGE. W. J. Byatt (Sandia Corp.). Textile Research J. 31: 171-174 (Feb. 1961).
An integro-differential equation is derived which describes the time-dependent changes of the weight distribution function of fibers subjected to random breakage. The usefulness of the approximations found for testing the theory and in finding certain transition probabilities associated with fiber decay is discussed. (1365)

NEW FACTS ABOUT SOME NEW AND OLD FIBERS. B. C. M. Dorset. Textile Mfr. 87: 67-72 (Feb. 1961).
The characteristics of Arnel 60, SM27 high modulus viscose fiber, Caprolan, and Alon, as compared with earlier forms of these fibers, are reviewed. (1366)

FUTURE OF FIBERS. J. W. S. Hearle. New Scientist 8: 1514-1516 (Dec. 8, 1960). Through BCIRA 41: 337 (1961).
The author reviews some recent developments in the production of regenerated and synthetic fibers as a basis for speculation about future trends. (1367)

ACRILAN-SPECTRAN. Chemstrand Corp., Decatur, Ala. Mar. 1961. 19 p. Bull. No. AP-18.
Preliminary guide to properties, processing characteristics and end uses of this new solution-dyed acrylic fiber. (1368)

ACRYLIC FIBERS: PROPERTIES AND USES. N. Jackson (Courtaulds Ltd). Textile Mfr. 87: 45-48 (Feb. 1961).
The properties and count limits of Courtelle processed on the flax, cotton, spun silk, woolen, and worsted spinning systems are described. High bulk yarns, factors in woven and knitted fabric constructions, dyeing, printing and finishing techniques, and end uses are also discussed. (1369)

ROVANA: VERSATILE NEW YARN. C. R. Sheehan (Dow Chem. Co.). Am. Dyestuff Reptr. 50: P138-P141 (Feb. 20, 1961).
This paper reviews the physical and chemical properties of Rovana and discusses the types of finishing operations that are applicable to fabrics of Rovana. Embossing, dielectric sealing, latex and solvent system coatings are included. Coloration and printing of fabrics containing Rovana and Rovana combined with other fibers are discussed. (1370)

SHIPPING INFORMATION: TEFLON FLUOROCARBON FIBER. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1961. 5 p. Bull. T-7 (replaces Bull. T-5). Free. (1371)

PRODUCTION AND PROPERTIES OF GLASS FIBERS. A. Grass. Textil-Rundschau 15, No. 10: 523-525 (1960). In German. Through BCIRA 41: 12 (1961).
The production of glass filaments and staple fibers and filamentary and staple fiber yarns and their uses are described, with special reference to the Vetrotex spinnable glass fibers produced since 1939 in Switzerland by the Lucens Works of the Fibres de Verre SA. (1372)

FIBER TABLES: TEXTILE GLASS FILAMENTS. P.-A. Koch. Textil-Rundschau 15, No. 10: 532-539 (1960). In German. Through BCIRA 41: 11 (1961).
The data given comprise definitions, historical development, production methods, chemical composition, properties, producers and uses of glass filaments and fibers, five master patents, and a bibliography of 156 literature references. (1373)

SOME FACTS ABOUT MANUFACTURED GRAPHITE, AND GRAPHITE FIBERS AND FABRICS. Union Carbide Europa SA. Textil-Rundschau 15, No. 10: 559-561 (1960). In German. Through BCIRA 41: 13 (1961).
Data are given on the properties of manufactured graphite and of the fibers and fabric made from it. Possible uses of the flexible graphite cloth with high temperature resistance are enumerated. Graphite fibers and fabrics are still in the development stage and not yet available in commercial quantities in Europe. (1374)

DUPONT ANTRON TRILOBAL NYLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1961. 7 p. Bull. NP-21. Free.
Recommendations for processing Antron in woven fabrics, tricot, and textured yarn. (1375)

CHANGES IN THE INTERMOLECULAR STRUCTURE OF KAPRON FIBERS DURING THERMAL TREATMENTS. L. I. Pokrovskii and A. B. Pakshver. Tekhnol. Tekstil. Prom. No. 5 (12): 121-124 (1959). In Russian. Through BCIRA 40: 805 (1960).
It is shown that dry heating reduces and steaming increases the sorption rate of phenol and dye by Kapron fibers. This difference is attributed to a considerable change in the macro-structure of the steamed fiber (destruction of the oriented skin and formation of pores). Thus, the diffusion coefficient depends not only upon the packing density of the molecules in the fiber but also on its macro-structure. (1376)

MODIFICATION OF REGENERATED CELLULOSE. H. W. Best-Gordon (Courtaulds Ltd). Textile Weekly 61 (1): 312-315 (Feb. 10, 1961).
The commercial disadvantages of existing regenerated cellulose fibers are summarized, and recent progress in fiber modification to meet with particular end-use requirements is reviewed. (1377)

POLYNOSIC FIBER. Textile Recorder 78: 50-52 (Feb. 1961).
The fundamental developments which led to the production of the polynosic fibers and the relationship of their physical properties to their molecular structure are discussed. (1378)

TECHNOLOGICAL EVALUATION OF SOME CHEMICAL AFTERTREATMENT METHODS FOR POLYCAPROLACTAM STAPLE FIBERS. E. Fritzsche and A. Wicklein. Faserforsch. u. Textiltech. 10, No. 10: 475-485 (1959). In German. Through BCIRA 40: 482 (1960).
The textile properties of Perlon staple fibers can be improved by temporary swelling in suitable acids and salts or organic compounds. Patents referring to the agents used and to the methods of application are compiled in a table. Since the monomer and oligomer portions in the fiber are to be recovered, the treatment can be effected only after removal of the water-soluble constituents (flock, tow, or during further processing). Results from laboratory and semitechnical experiments are reported and the industrial applicability of treatments with cold sulfuric acid, hot lactam, and hot zinc chloride are discussed. Other treatments (acids + salts; organic acids; cold zinc chloride; cold phenol) were found effective but too expensive. (1379)

LABORATORY TESTING OF CHEMICALLY AFTERTREATED POLYCAPROLACTAM STAPLE FIBERS. E. Fritzsche and A. Wicklein. Faserforsch. u. Textiltech. 11, No. 4: 180-189 (1960). In German. Through BCIRA 40: 2620 (1960).
The use of chemicals during aftertreatment of polycaprolactam staple fibers to improve their textile properties was reported in a previous paper (abstr. 1379/61). Chemical and textile tests were carried out, which showed that the improvements mentioned (raising, crimping, stiffening, and luster reduction) can be achieved in a significant measure only if the damage limit is exceeded. Although chemical aftertreatment considerably improves processing properties, it is not sufficient to impart a satisfactory woollike nature to the finished product, unless the chemical treatment as described is combined, e.g. with mechanical crimping, or the fiber is rendered as regards its degree of orientation so uniform that more severe treatment conditions become possible. (1380)

CHARACTERISTIC PROPERTIES OF NEW RAYON STAPLE TYPES AND THEIR IMPORTANCE FOR THE TEXTILE PRACTICE. W. Albrecht. Z. ges. Textil-Ind. 62, No. 21: 925-930 (1960). In German. Through BCIRA 41. 5 (1961).
Technical data are given for the newly developed staple fiber types, with special reference to the properties of the skinless round fibers and of the all-skin fibers, and their behavior during dyeing and to soiling is examined. (1381)

YARN PRODUCTION B

STUDIES ON IMPROVEMENT OF CLEANING IN SPINNING MILLS. PART 11. CHARACTERISTICS OF TRAVELING BLOW NOZZLE. Y. Niitsu. J. Textile Machy. Soc. Japan 13, No. 12: 879-884 (1960). In Japanese (English summary). Through BCIRA 41: 374 (1961).
The characteristics have been studied by blowing sand grains. A theoretical expression is derived relating blow-off width, blow velocities, and the traveling velocity of the nozzle. (1382)

NYLON TECHNICAL CONTROL DURING PRODUCTION. J. A. Salter (Brit. Nylon Spinners). Nylon Outlook 3, No. 2: 10-21 (Autumn 1960).
This article, after describing briefly how nylon polymer and yarn are made, discusses efforts to improve processes, outlines the problems of quality control, and indicates the technical and administrative measures designed to meet these problems. (1383)

CHOOSING THE BEST DRAFT. W. Nutter. Reply: J. Simpson, A. T. Callegan, and C. L. Sens. (Letters to the editor). Textile Inds. 125: 93-94 (Mar. 1961).
Comments on an article on optimum draft allocations for cotton from picking through spinning (abstr. 2266/60) and the authors' reply. (1384)

SLIVER-TO-YARN SPINNING. W. F. Lowell (Saco-Lowell Shops) and J. H. Bolton, Jr. (Whitin Mach. Works). Am. Textile Reptr. 75: 17-18 (Mar. 16, 1961).
The general tenor of these critical comments on the Japanese O-M sliver spinning frame is to point out that there is no sliver spinning frame available that will give service comparable to the American roving-to-yarn spinning system, considering both quality and cost of operation. (1385)

EFFECT OF MOISTURE CONTENT ON PREPARATORY PROCESSES IN THE COTTON SPINNING MILL. I. Röder. Magyar Textiltech. 12, No. 2: 41-47 (1960). In Hungarian. Through BCIRA 41: 177 (1961).
For Soviet cottons the optimum conditions are found at a regain of 5-6%, which, at 20-22° C, depending on the openness of the cotton, corresponds to 40-50% rh. (1386)

SPINNING TEST: MEANS FOR CONTROLLING COTTON SPINNING. J. Cuvelier and B. Maron. Coton Fibres Trop. 15, No. 1: 1-13 (1960). In French. Through BCIRA 41: 375 (1961).
The Laboratory of the C. R. I. T. E. R. developed equipment for carrying out spinning tests on 5-7 lb of cotton previously mixed in the fiber-blender. Before the actual spinning test, length, strength, fineness, and maturity are determined on the cotton samples and, at each processing stage, the irregularity of the material is measured so as to be able to control the working conditions. Some studies on the relationship between fiber and yarn properties, adhesion of cotton fibers to various machine components, and the effect of ginning on fiber properties are also reported. (1387)

OPTIMUM PACKAGE SIZE. W. Slater (T. M. M. (Research) Ltd). Textile Weekly 61 (1): 483-484 (Mar. 3, 1961).
Although large packages are an effective method of increasing operative productivity, other economic factors are important and for certain machines it can be shown that the extra requirements of space, power, and higher capital charges impose an economic limit to package size. These factors are discussed in connection with lap formation and carding. (1388)

SAW-TOOTHED ROLLERS FOR SPINNING MACHINERY. German Standards Comm. Melliand Textilber. 41, No. 11: 1338-1339 (1960). In German. Through BCIRA 41: 371 (1961).
The draft DIN 64 125 specifies the terms and symbols or formulas of 16 structural characteristics of saw-toothed rollers and explains the meaning of the terms. (1389)

ROBERTS-TEMATEX TOW TRANSFORMER. Roberts Co. Am. Textile Reptr. 75: 15-16 (Mar. 16, 1961).
The Roberts-Tematex tow transformer is considered the first machine capable of commercial production of all types of manmade fiber tow into tops. It produces normal tops from normal tows, heat-stretched and high bulk tops from normal tows without need for second operation heat relaxing, and high bulk tops from two-component tows. Technical data are included. (1390)

RAYON PROCESSING. Fibre and Fabric 114: 8, 9 (Feb. 1961).
The principal factors to be considered in the selection of oils for sizing and dressing rayon yarns are discussed. (1391)

SOME RELATIONSHIPS BETWEEN THE PROPERTIES OF FIBERS AND THEIR BEHAVIOR IN SPINNING USING THE AMBLER SUPERDRAFT METHOD. A. D. Bastawisy, W. J. Onions, and P. P. Townend (Leeds Univ.). J. Textile Inst. 52: T1-T20 (Jan. 1961).
The effect of fiber length, length variability, staple crimp, and fineness of wool on the strength, irregularity, and limiting counts spun on the Ambler Superdraft system were studied. It is concluded that yarn spinnability is mainly governed by mean fiber diameter and length; yarn irregularity by mean fiber diameter or the number of fibers per cross-section of a yarn; yarn strength by mean fiber diameter, crimp and fiber-length distribution; yarn extensibility by mean fiber diameter, crimp, fiber-length distribution, and fiber extension. 24 refs. (1392)

Carding and combing B2

DUST IN CARD ROOMS: 4TH INTERIM REPORT. Gr. Brit. Joint Advisory Comm. of the Textile Industry. Gt. Brit. Ministry of Labor, London, 1960. 18 p. Available from British Information Services, 45 Rockefeller Plaza, New York 20, N.Y. 35¢ [approx.].
This report describes the Selrow device, a method of local exhaust ventilation, and gives the results of tests made of this device under laboratory conditions and under normal working conditions in a mill. (1393)

WAYS OF IMPROVING THE CARDING PROCESS. L. I. Karpov. Tekstil. Prom. 20, No. 3: 42-45 (1960). In Russian. Through BCIRA 41: 28 (1961).
The experiments and measurements were carried out on 40 machines fed with laps of the same quality; all the machines were simultaneously provided with all-metal wire clothing and had been in use for about 5 years. It was found that, on machines with ground-off pins, the quantity of flat strips is generally increased and, two hours after stripping, the quality of the sliver is by 15% inferior to that from machines with full-length wires. Immediately after stripping, the sliver quality was in both cases the same. For increasing the gripping power of the clothing, lateral grinding is recommended. (1394)

FUNCTIONS OF THE CARD TOP-COVER. PART 1. FUNDAMENTAL EXPERIMENT. S. Yamawaki and G. Hirose. J. Textile Machy. Soc. Japan 13, No. 11: 786-796 (1960). In Japanese (English summary). Through BCIRA 41: 179 (1961).
The carding action of a fixed top-cover with a rough inside surface (cf. the granular card) has been examined. For synthetic fibers a setting of 2-5 mm and a cylinder speed of 10 m/sec are adequate. (1395)

EXAMINATION OF THE PERFORMANCE OF THE FANCY ROLLER ON THE WOOL CARD. E. Boroczy. Faserforsch. u. Textiltech. 11, No. 10: 481-487 (1960). In German. Through BCIRA 41: 180 (1961). (1396)

DEVELOPMENT OF CARDING. K. G. Ponting. Wool Record 99: 425, 427 (Feb. 10, 1961).
The progress from hand methods to modern wool carding machinery is traced. 6 refs. (1397)

MILLS REPORT ON SRRL GRANULAR CARD. R. A. Rusca, A. L. Miller, and R. S. Brown (So. Reg. Research Lab.). Textile Bull. 87: 114-116 (Mar. 1961).
Evaluations by 10 mills of the granular card indicate savings of 1 to 4% card waste, without affecting mill processing efficiency or yarn uniformity or strength. In some cases a slight increase in trash particles may detrimentally affect yarn appearance. There is some evidence that granular carding is more suitable for coarse and medium yarns than for fine yarns. 3 refs. (1398)

TRAVERSING SPOOL DRUM DRIVE FOR WHITIN P4D TAPE CONDENSERS. Whitin Mach. Works. Whitin Rev. 27: 30-31 (Dec. 1960). (1399)

WOOLEN AND WORSTED CARD GRINDING REQUIREMENTS. Am. Textile Reptr. 75: 17-18 (Mar. 9, 1961). (1400)

WORSTED SPINNERS GUILD FORUM. E. Garnett (Hudson Combing Co.). Fibre and Fabric 114: 4-7, 11, 12 (Feb. 1961).
The various processes carried out in the worsted combing plant (sorting, scouring, carding, backwashing, combing, gilling) are outlined, and their effects on top characteristics are discussed. (1401)

Drawing and roving B3

STUDY OF THE PRINCE-SMITH AUTOLEVELER, RAPER SYSTEM. F. Monfort and J. Grignet. Ann. Sci. Textiles Belges No. 3: 56-85 (Sept. 1960). In French. Through BCIRA 41: 181 (1960). (1402)

RAPER AUTOLEVELER GILL BOX: CHECKING, TESTING, AND QUALITY CONTROL. PART 2. Textile Recorder 78: 53-54 (Feb. 1961).
Mechanical checks, material faults, and the suitability of the Raper autoleveler gill box for different types of materials are discussed. (1403)

FINISHING OF TOPS. H. Needham and W. Parkin. Wool Rev. 34: 14-16 (Feb. 1961).
The important factors in building a satisfactory ball of top are discussed, and recent developments in top finishing gill boxes are described. (1404)

AUTOMATIC REGULATION OF SLIVER HANK. F. A. Greenwood (T. M. M. (Research) Ltd). Textile Weekly 61 (1): 199-200 (Jan. 27, 1961); 253-254 (Feb. 3, 1961).
Random effects, irregularity of input, and methods of correction are discussed. The various types of devices for measuring uniformity are noted and the operation of open loop and closed loop regulators is described. (1405)

SINGLE-ZONE DRAFTING ON COMBING MACHINES AND DRAWFRAMES. D. M. Kofman, S. M. Mikhailov, and G. I. Lyubina. Tekstil. Prom. 20, No. 3: 46-49 (1960). In Russian. Through BCIRA 41: 29 (1961).
Experiments showed that sliver irregularity can be considerably reduced by using single-zone drafting on combing machines and drawframes. The modernization of existing drafting mechanisms is described, and the efficiency of the drafting systems examined is evaluated, with reference to the sliver irregularity on long and short sections. (1406)

AUTOLEVELER INTERSECTING GILL BOX. Deutscher Spinnereimaschinenbau. Textile Recorder 78: 64 (Feb. 1961).
Features of the RDN intersecting gill box, fitted with an autoleveler device operated by combined mechanical and electrical mechanisms, are described. (1407)

EFFECT OF FLYER SETTING ON ROVING BOBBIN STRUCTURE. W. Wegener. Melliand Textilber. 41, No. 10: 1184-1189; No. 11: 1317-1322 (1960). In German. Through BCIRA 41: 184 (1961).
The bobbin density, number of layers, net weight of the bobbins, running time of the bobbin, and the roving distribution over the whole bobbin are examined, effects of the number of teeth, carriage changes, and roving twist are studied, and comparison is made between a normal flyer, a Franzbach flyer, and a flyer with large-package delivery. The results are summarized. (1408)

Spinning, winding, twisting B4

PHYSICS OF A BALLOONING THREAD. A. E. De Barr. Textile Mfr. 87: 54-58 (Feb. 1961).
The nature of the forces determining the shape and size of balloons in ring spinning are discussed. (See also abstr. 899/60.) (1409)

IMPROVED CASABLANCAS BOBBIN HOLDER. Whitin Mach. Works. Whitin Rev. 27: 21-22 (Dec. 1960). (1410)

DETECTION OF THE NUMBER OF KNOTS IN A BOBBIN. Industrie Textile: 799-802 (Nov. 1960). In French. Through BCIRA 41: 263 (1961).
The mechanism described for the detection of knots or similar defects in yarn comprises a movable feeler in the form of a housing with a lid, which can be adjusted so as to leave an opening just sufficient for the passage of the thread, and a graduated signaling device actuated by the former in each case when the feeler is displaced by a knot or a similar defect in the thread passing through the opening. The signaling device consists of a system of lamps arranged so that they are individually extinguished to indicate to the operator the number of knots or defects present in the thread passing through the device. (1411)

PRESSURE ARM FOR RING SPINNING MACHINES. Z. ges. Textil-Ind. 62, No. 21: 934-935 (1960). In German. Through BCIRA 41: 34 (1961).
The Toenissen pressure roller for spinning machine drafting systems is described and illustrated. It gives accurate loading pressures of 6.5 kg for the back rollers and 9 kg each for the middle and front rollers. The pressure, however, may be varied, if desired; when spinning staple lengths of 60 mm, all three rollers are weighted with 9 kg each. Other advantages are enumerated. (1412)

CONTROL BOARD SIMPLIFIES SPINNING FRAME TESTING. N. L. Enrick. Textile Bull. 87: 117 (Mar. 1961).
The construction and use of a scheduling control board for spinning sizing tests are described. (1413)

NOVELTY YARN ATTACHMENTS FOR WHITIN PACEMAKER TWISTERS. Whitin Mach. Works. Whitin Rev. 27: 17-20 (Dec. 1960).
Features and potentials of the basic C-1 and duplex splash yarn attachments are briefly noted. (1414)

BLOCK CREELING IN SPINNING. Cone Mills Corp. Textile Inds. 125: 79-81 (Mar. 1961).
The economic advantages of block versus random creeling are cited on the basis of mill tests. (1415)

EVALUATION OF THE THREAD BREAKAGE FREQUENCY IN COTTON SPINNING BY STATISTICAL INTERPLANT COMPARISON. K.-H. Banke. Deut. Textiltech. 10, No. 11: 561-564 (1960). In German. Through BCIRA 41: 188 (1961).
The causes and methods of counting and evaluating the end breakages in spinning mills are reviewed, and an end-breakage coefficient is derived on the basis of technological data and yarn fineness, i.e. factors which are mainly responsible for the end-breakages. If, after having proved by the X^2-test that only accidental faults affect the end-breakage frequency, the end-breakage coefficient is correlated with the end-breakage number/1,000 spindle-hr, results are obtained that are more suitable for the evaluation of the end-breakage frequency than the end-breakage/1,000 spindle-hr relationship alone. (1416)

AUTOMATIC BOBBIN DOFFING. Deering Milliken Research Corp. Textile World 111: 55 (Mar. 1961).
The operation of the Deering Milliken automatic bobbin doffer for spinning frames is briefly described. (1417)

DEVELOPMENT OF THE MODERN SPINNING MOTOR FROM THE SQUIRREL CAGE MOTOR. H. Claviez. Melliand Textilber. 41, No. 10: 1194-1198 (1960). In German. Through BCIRA 41: 35 (1961).
The development of the double-wound motor, whose characteristics are particularly adapted to the technological spinning conditions, is discussed and its advantages are pointed out (reliable start, efficiency, elimination of high end-break frequency, etc.). (1418)

ERECTION, MAINTENANCE, AND OPERATION OF SPINNING MACHINERY. PART 2. E. Frohnapfel (Howard & Bullough Ltd). Textile Merc. 144: 197, 199 (Feb. 10, 1961).
The following are discussed: anti-wedge ring vs conventional rings; traveler types and maintenance; traveler clearers; drafting system maintenance; individual electric drives; bobbin build. For part 1, see abstr. 920/61. (1419)

HEBUCOFIL METHOD FOR DUST ELIMINATION AND THREAD REMOVAL ON RING SPINNING MACHINES. H. Bühler. Melliand Textilber. 41, No. 10: 1177-1180 (1960). In German. Through BCIRA 41: 36 (1961).
The construction and mechanism of the Rieter suction installation Hebucofil for removing dust and broken ends on ring spinning machines are described, with reference to the analysis of dust formation, sources of dust, methods of dust elimination and rules for effective dust removal (these rules were used as a basis for the development of the Hebucofil suction installation). (1420)

DOFFING AND CREELING MECHANISMS ON RING SPINNING MACHINES. Technical Information Office of the Light Industry, Moscow. Deut. Textiltech. 10, No. 11: 558-561 (1960). In German. Through BCIRA 41: 187 (1961).
Various mechanical and automatic devices for the doffing and creeling of cops, which were developed in Soviet plants and institutes, are described and illustrated to prove that they function satisfactorily and can be used on ring spinning machines with a highly increased number of spindles. (1421)

MaK STANDSPINNER. Mak Maschinenbau. Textile Merc. 144: 194-195 (Feb. 10, 1961).
The MaK Standspinner combines the high delivery speed of the ring spinning frame with the yarn quality produced by self-acting mules. The machine uses a stationary line of spindles and a roving spool unwinding gear traveling backwards and forwards, and is equipped with infinitely variable cam-controlled hydraulic gears and positive drives. (1422)

WOOL SPINNING FRAME CONVERSION. Whitin Mach. Works. Whitin Rev. 27: 24-29 (Dec. 1960).
Steps recommended for the modernization of Whitin E frames are outlined. (1423)

INSTRUMENT FOR THE MEASUREMENT OF TRAVELER-RING FRICTION. M. Axson (Shirley Inst.). J. Textile Inst. 52: T26-T39 (Jan. 1961).
An instrument which utilizes electronic techniques for measuring the frictional force generated by the movement of the traveler around the ring (from which the coefficient of friction can be calculated) is described. The application of the instrument to the investigation of new materials for travelers and rings is discussed, and some illustrative results are given. 7 refs. (1424)

INVESTIGATIONS ON THE PERFORMANCE OF RING TRAVELERS ON SPINNING RINGS OF COTTON RING SPINNING MACHINES. PART 7. O. König and H. Herdtle. Textil-Praxis 15, No. 11: 1107-1111 (1960). In German. Through BCIRA 41: 186 (1961).
The authors discuss the problems of lubrication and wear of traveler and ring, with special reference to the types of friction and the causes of failure of boundary-layer lubrication. (1425)

TWISTING WOOLEN AND WORSTED YARNS FOR KNITTING. N. Primentas. Textile Recorder 78: 42-43 (Feb. 1961).
The objectives of ply twisting knitting yarns are noted. Recommendations on the amount of twist to insert for various types of yarns are given, and the advantages of an extra winding operation prior to twisting are cited. (1426)

MODERN TYPES OF TWISTING MACHINES. G. V. Sokolov. Tekstil. Prom. 20, No. 3: 36-42 (1960). In Russian. Through BCIRA 41: 37 (1961).
A comparison is made between two Soviet ring-twisting machines (K-128 and K-176) and six other machines produced in other countries (Platt, Barmag, etc.), with reference to their mechanism, productivity, and economic aspects in the production of cord. The basic technical and economic data are tabulated. (1427)

Yarns B5

SPECIALIZED EQUIPMENT FOR YARN TEXTURING. Ateliers Roannais de Constructions Textiles. Man-Made Textiles 38: 76-77 (Feb. 1961).
Features of the F.T. false twisting frame, AR4 thread assembly machine, M type winder, and muff expander are described. (1428)

MODIFIED CONTINUOUS-FILAMENT YARNS. Heberlein & Co. AG. Reply: D. Finlayson. (Letters to the editor). J. Textile Inst. 52: P27-P28 (Jan. 1961).
Heberlein patents on false twisting are cited. (See abstr. 28/61.) (1429)

PRINCIPLES OF CHECKWEIGHING. A. Linnert (Brit. Cotton Research Assoc.). Textile Weekly 61 (1): 306-307 (Feb. 10, 1961).
The nature and extent of count variation in condenser yarns and the usefulness of checkweighing and cop sorting to eliminate block barring caused by this variation are explained. Various systems of cop sorting and their applications are described. (1430)

THERMAL PROPERTIES OF SYNTHETIC FILAMENT YARN. PART 1. THERMAL SHRINKAGE. N. Motoji and I. Tsunjimoto. J. Textile Machy. Soc. Japan 13, No. 11: 776-780 (1960). In Japanese (English summary). Through BCIRA 41: 264 (1961).
Heat-induced changes in the length and stress of drawn (but not annealed) nylon 6 and Tetron polyester filament yarns were examined. (1431)

STUDY ON THE STRUCTURE OF BLENDED YARNS. PART 10. NATURE OF TWIST IN BLENDED YARNS OF COTTON AND RAYON STAPLE FIBERS. S. Ueno. J. Soc. Textile Cellulose Inds. Japan 16, No. 11: 940-945 (1960). In Japanese (English summary). Through BCIRA 41: 121 (1961).
The relation of strength to twist, in particular of fiber slippage to twist, and blend proportion, is discussed. (1432)

ALUNIT METALLIC THREAD. K. A. Rat'kov and I. P. Rat'kova. Tekstil. Prom. 20, No. 3: 29-31 (1960). In Russian. Through BCIRA 41: 41 (1961).
This metallic yarn (developed in the Soviet Union as an equivalent of Lurex yarn) consists of an acetobutyrate-cellulose filament coated with an aluminum foil (10-11μ thick) that was first treated with thermoplastic polyvinyl-acetate varnish. The yarn has a tensile strength of 6.5 kg/mm^2, relative elongation of 25-30%, thickness of 80-82μ, width of 0.2-1 mm, stability to temperatures of 50-60° C, and high electrical resistance. It can be used as warp or weft in weaving apparel, decorative, technical and special fabrics, can be twisted together with cotton, wool, Kapron, etc. yarns, and dyed as yarn or fabric with acetate dyes. Alunit-containing fabrics can be washed with soap at 50-60° C, or drycleaned with white spirit or pure trichlorethylene solution. Production method and machines are described. (1433)

PRODUCTION OF CRIMPED YARNS BY THE AIR JET METHOD. I. Kerényi. Magyar Textiltech. 12, No. 3: 86-88 (1960). In Hungarian. Through BCIRA 41: 190 (1961).
The air jet must be adjusted so that the stress on the fibers at the yarn surface is in the range of permanent elongation and that on the inner fibers in the range of elastic elongation. (The stress at the surface is five times that in the interior of the yarn.) In these circumstances, the decrease in tensile strength will be about 20%. (1434)

PRINCIPLES OF BULKED YARN MANUFACTURE. PART 1. G. R. Wray. Textile Recorder 78: 44-46 (Feb. 1961).
Since existing methods for texturing are dependent for their operation on the thermoplastic properties in the fibers processed, the nature of the changes which result from the heating of thermoplastic fibers are considered. (1435)

CZECH YARN BULKING TECHNIQUES. G. J. Bradley. Modern Textiles Mag. 42: 38, 40 (Mar. 1961).
Brief report of Mirlan, Tvasil, Evalon, and Anilon texturing processes. (1436)

MODERN YARN PRODUCTION FROM MANMADE FIBERS (AND THEIR CONVERSION INTO FABRICS). A symposium edited by G. R. Wray. Columbine Press, Old Colony House, South King Street, Manchester 2, England. 1960. 202 p. 27s 6d [$3.85].
Contents: New trends in yarn production, by G. R. Wray, p. 1-16; Tow-to-sliver stretch-breaking (with particular reference to the Seydel machine), by J. J. Reid, p. 17-34; Tow-to-sliver stretch-breaking (with particular reference to the Turbo Stapler machine), by H. Taylor, p. 35-55; Tow-to-sliver cutting methods, by E. Kirk, p. 56-74; Tow-to-yarn spinning, by L. J. Gibson and A. S. Roberts, p. 75-99; Bulked yarns by the false-twist method, by D. F. Arthur, p. 100-110; Bulked yarns by a stuffer-box method, by W. H. McCormick, p. 111-121; Bulked yarns by edge crimping, by A. F. Weller, p. 122-132; Modified false-twist yarns, by C. S. Bruce, p. 133-138; Bulked yarns by air texturing, by S. T. Price, p. 139-151; Knitting behavior of the new yarns, by S. Fitton, p. 152-175; Use of the new yarns in woven fabrics, by J. B. Hamilton, p. 176-194; Trademarks, p. 195-196; Machine manufacturers, p. 196. References. (1437)

BRITISH DEVELOPMENTS IN MODIFIED NYLON FILAMENT YARNS. Hosiery Trade J. 68: 115-120 (Feb. 1961).
A diagram is included which indicates the various texturing processes and trade names of the resultant products. (1438)

PRODUCING FALSE-TWIST STRETCH YARNS. PART 1c. PROCESSING CONDITIONS. M. S. Burnip and J. W. S. Hearle. Man-Made Textiles 38: 73-75 (Feb. 1961).
The effects of tension and temperature during processing on yarn characteristics are discussed. On the basis of the data presented in this and previous articles (abstr. 4817/60 and 62/61), it is concluded that the generally satisfactory conditions for production of false-twist stretch yarns are a twist of about 80 tpi (in 70 denier nylon), a processing temperature of around 200° C, and a tension as low as possible. (1439)

PRODUCING CRIMPED YARNS BY FALSE-TWISTING. H. Vinkeloe. Man-Made Textiles 38: 43, 45 (Feb. 1961).
Following a brief explanation of the principle of false twist crimping, the design and operation of the Barmer high speed spindle (based on Algemene Kunstzijde Unie NV patent) are described. (1440)

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

HOW TO SPECIFY WARPER DRIVE SYSTEMS. J. A. McCoig (Cocker Mach. & Foundry Co.). Textile Bull. 87: 127-130 (Mar. 1961).
The basic drive system used by Cocker Machine & Foundry Co. and possible variations in its design in accordance with customer requirements are described. (1441)

QUILLING FILAMENT NYLON YARNS FOR TEXTILE WEAVING. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Feb. 1961. 4 p. Bull. N-140 (replaces Bull. N-83). Free.
Recommendations for direction of yarn takeoff, tube caps, quill winding tension, quill selection, quill build, lagging of quills, static, relative humidity, and setting of filling yarns. (1442)

WHAT IS ESSENTIAL IN WARP SIZING? H. Krause. Textil-Praxis (English ed.) No. 4: 165-168 (Dec. 1960).
The essential factors in achieving optimum results in warp sizing are reviewed. (1443)

PROBLEMS OF DETERMINING THE VISCOSITY OF STARCH-BASED SIZING MATERIAL USED IN THE INDUSTRY. K. Ramaszeder. Industria Textila 11, No. 10: 391-394 (1960). In Rumanian. Through BCIRA 41: 201 (1961). (1444)

SECTION BEAMING IN WARP KNITTING. Tunnicliffe Developments Ltd. Textile Weekly 61 (1): 367 (Feb. 17, 1961).
In the Tunnicliffe universal tension control system, tensioning is carried out on all yarn ends simultaneously by a single set of rollers situated just in front of the beam being warped. The system depends for its effectiveness on the Smith particle coupling, by means of which it is possible to control the tension applied to the yarn ends to very fine limits by the manipulation of a single knob. (1445)

PRODUCTIVITY INCREASE IN AUTOMATIC WEFT WINDING BY THE BONUS SYSTEM. M. Pesenecker. Melliand Textilber. 41, No. 11: 1340-1341 (1960). In German. Through BCIRA 41: 399 (1961).
A simplified method for calculating the bonus is described. It is claimed that by introducing this system, the efficiency increases to 85-90% (as compared with 75-78% in the case of wages/hour). (1446)

EFFECT OF WINDING DENSITY, VOLUME, AND YARN COUNT ON THE YARN LENGTH OF 4° 21'-BKN CHEESES. W. Wegener and H. Landwehrkamp. Textil-Praxis 15, No. 11: 1131-1140 (1960). In German. Through BCIRA 41: 198 (1961).
It is shown that an improvement with respect to equal yarn lengths on all cheeses can be obtained by fitting the winding machines with electrical stop motions (Schlafhorst & Co.) which automatically stop the machine on reaching the full diameter of the bobbin. An electromagnetically operated knife cuts the thread and the cheese is lifted from the grooved cylinder. The variations in the yarn lengths due to the winding density and yarn count differences can be greatly reduced by accurate setting of the machine; absolutely identical yarn lengths per bobbin are not attainable on account of the uncontrollable yarn-count variations, even if it were possible to obtain ideal diameter and winding density uniformity. (1447)

THREAD TENSIONS TO BE USED DURING PROCESSING OF CHEMICAL FILAMENTS. PART 2. K. Grundig. Deut. Textiltech. 10, No. 11: 565-568 (1960). In German. Through BCIRA 41: 200 (1961).
Recent investigations have shown that the existing relationships between filament fineness and maximum permissible mean thread tension are not generally applicable and that it is necessary to determine for each denier the maximum permissible mean thread tension from the stress-elongation behavior of the respective filament and subsequent winding tests. For previous part see abstr. 1856/60. (1448)

GUIDE SURFACES AND TENSION DEVICES. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Feb. 1961. 4 p. Bull. X-129 (replaces Bull. X-91). Free.
Summary of the various types of guide surfaces and tension devices in use today. (1449)

PIRN AND CHEESE WINDING MACHINES. German Standards Comm. Melliand Textilber. 41, No. 10: 1201-1202 (1960). In German. Through BCIRA 41: 51 (1961).
The German draft specifications DIN 62510 and 62511 define the function of pirn winders and cheese winding machines and of their individual components. (1450)

WEFT WINDING APPARATUS UA-300-3. I. G. Burova. Tekstil. Prom. 20, No. 3: 50-52 (1960). In Russian. Through BCIRA 41: 50 (1961).
The machine described automatically effects the following operations: stops when the thread breaks or the pirn has to be changed; replaces full bobbin by empty tube; feeds tubes from bin to magazine of winding heads; and packs full pirns into containers. (1451)

Weaving C2

LARGE-SHUTTLE AUTOMATIC WEAVING. Soc. Alsacienne de Constructions Mecaniques. Textile Weekly 61 (1): 486-487 (Mar. 3, 1961).
The main features of the LAGN loom described include the use of a shuttle which holds twice the normal amount of weft, thus decreasing battery feeding by half. (1452)

IDEAS UNDERLYING WEAVING MACHINE PATENTS. PART 14. R. H. Rossmann. Textil-Praxis 15, No. 11: 1143-1145 (1960). In German. Through BCIRA 41: 202 (1961).
The most important circular-loom patents mentioned in this series are classified according to their characteristics, and conclusions are drawn as regards the importance of the ideas contained in them. (1453)

CIRCULAR PICK-AND-PICK LOOM. K. Nittel. Melliand Textilber. 41, No. 11: 1343-1350 (1960). In German. Through BCIRA 41: 402 (1961).
Construction and mechanism of the Lignostone circular-box pick-and-pick loom with revolving skip boxes operating independently on both sides are described. (1454)

ELECTRONICS OPEN UP NEW WAY FOR WEAVING TECHNIQUE. J. Ballier. Industrie Textile: 813-816 (Nov. 1960). In French. Through BCIRA 41: 203 (1961).
The construction and mechanism of a loom operated by electronic energy are described. The loom is claimed to weave at the maximum speed compatible with the yarn strength, without any mechanical means limiting this possibility. (1455)

LOOMFIXER AND HIS JOB. PART 27. W. Westbrook. Textile Bull. 87: 118 (Mar. 1961).
Directions for re-covering takeup rolls in the mill shop. (1456)

DEVELOPMENTS IN THE MODERN JACQUARD. PART 2. Textile Recorder 78: 47-49 (Feb. 1961).
Edited abstracts of a series of lectures held at Blackburn College of Technology dealing with modern jacquard weaving and the mechanisms involved. Open shed jacquards, by G. Dracup, p. 47-48; Endless paper jacquard machines, by A. Boot, p. 48-49. (1457)

NO SHUTTLES--NO REGRETS. Crystal Springs Bleachery. Textile Inds. 125: 74-78 (Mar. 1961).
Brief report of Draper shuttleless loom performance over a four year period. (1458)

DO WARP LETOFF MOTIONS AND ELECTRICAL WEFT FEELERS INCREASE THE PRODUCTIVITY OF OVERPICK LOOMS FOR RAYON? E. Günther. Deut. Textiltech. 10, No. 10: 515-519 (1960). In German. Through BCIRA 41: 205 (1961).
A small mill, producing viscose rayon lining material, is given as an example to show that the installation of warp letoff motions and weft feelers rapidly increases the production by about 50%. (1459)

STUDY ON THE JET LOOM. PART 5. EFFECTS OF NOZZLE SHAPE ON WEFT PROPULSIVE FORCE. M. Uno, T. Ishida, S. Koyama, and K. Tamada. J. Textile Machy. Soc. Japan 13, No. 12: 872-878 (1960). In Japanese (English summary). Through BCIRA 41: 404 (1961).
The propulsive force given to weft by an air jet is roughly proportional to the air velocity and the yarn diameter. (1460)

MEASUREMENT OF WARP TENSION ON LOOMS. S. Nosek. Deut. Textiltech. 10, No. 10: 511-514 (1960). In German. Through BCIRA 41: 204 (1961).
The mechanism and applicability of some warp tension measuring devices are examined, and their advantages and disadvantages discussed. Methods of measuring the tension directly on the warp are preferable to those which measure it at the back rest. Reference is made to the required sensitivity of the devices, the tension conditions at the loom are analyzed mathematically, and an example is given of incorrect tension measurement on rocking beams. (1461)

WARP TENSION IN WEAVING. L. Szponder (Spinners Ltd). Textile Inds. 125: 82-85 (Mar. 1961).
Results of mill tests on the effects of warp tension in woolen and worsted weaving on shrinkage and finished cloth quality in terms of ends and picks per inch, twill angle, and weight per square or running yard are reported. (1462)

TEMPLE SCISSORS FOR THE ATK-100 LOOM. I. A. Chikarov. Tekstil. Prom. 20, No. 3: 68-69 (1960). In Russian. Through BCIRA 41: 57 (1961).
The mechanism and construction of this automatic weft-end cutter are described. (1463)

WEAVING WITH LINEN [HAND LOOM WEAVING]. J. Patterson. Oregon State Coll., Agri. Experiment Station, Corvallis, Ore. May 1958. 15 p. $1.00. (1464)

AIDS TO THE LOOMFIXER: CENTER WEFT FORK. Fibre and Fabric 114: 10 (Feb. 1961).
The proper setting of the center fork mechanism on the Draper XD loom is described. (1465)

AUTOMATIC BATTERY SYSTEMS. A. Wettstein. Melliand Textilber. 41, No. 11: 1341-1343 (1960). In German. Through BCIRA 41: 401 (1961).
The development and mechanism of the Rüti 1- and 4-color automatic battery systems are discussed. (1466)

Knitting C3

IN KNITTED FABRICS, THE YARN TELLS THE TALE. W. E. Shinn. Knitter 24: 27-29 (Dec. 1960).
The effects of yarn strength, elasticity, elongation, smoothness, uniformity, twist, fullness, and resilience on knit fabric quality are discussed. (1467)

HOW TO RUN AGILON IN MEN'S HOSIERY. J. H. Sawyer (Magnolia Inds.). Hosiery Underwear Rev. 44: 53, 58 (Mar. 1961).
Recommended procedure for mills to follow to obtain maximum results in knitting, dyeing, and finishing Agilon stretch yarn. (1468)

KOVO FOUR FEEDER SEAMLESS HOSE MACHINE. Hosiery Trade J. 68: 108 (Mar. 1961).
Further technical details of the Kovo J4Da machine are given. See also abstr. 119/61. (1469)

CAUSES OF TWISTING TENDENCY IN TUBULAR KNITTED FABRICS FROM COTTON YARNS. G. Heine. Deut. Textiltech. 10, No. 10: 520-524 (1960). In German. Through BCIRA 41: 266 (1961).
Examination of 17 different cottons showed a considerable effect of the cotton source on the twisting tendency of the knitted fabric (at the same degree of yarn twist). The best results were obtained with knitting yarns from Menoufi (Egyptian) cotton. Directions are given concerning the degrees of yarn twist to be used. (1470)

DIVERSITY IN FABRICS MADE ON V-TYPE MACHINES. Hosiery Trade J. 68: 148-150 (Feb. 1961).
Examples of design possibilities on Santagostino hand operated single system and Schaffhouse automatic double system jacquard stitch transfer DJFU machines. (1471)

ACHIEVING SURFACE INTEREST IN DOUBLE JERSEY. J. B. Lancashire. Hosiery Trade J. 68: 86-88 (Feb. 1961). (1472)

NOVEL ITALIAN MERCERIZED COTTON FLAT FRAME FABRICS. Hosiery Trade J. 68: 100-101 (Mar. 1961).
Openwork fabrics knitted on Santagostino type Astra hand flat machines with novel automatic patterning device are illustrated. (1473)

CIRCULAR OUTERWEAR YARDGOODS. PART 1. C. Reichman. Knitted Outerwear Times 30: 3, 5-6 (Mar. 6, 1961).
The general classes of machines available for all circular-knit outerwear and the specific types of machines, fibers, and yarns utilized, as well as the manufacturing cycle from yarn to finished fabric for knit shirts, are described. (1474)

CIRCULAR OUTERWEAR YARDGOODS. PART 2. C. Reichman. Knitted Outerwear Times 30: 3, 7-9 (Mar. 13, 1961).
Machines, fibers, and the manufacturing cycle for jersey and double jersey fabrics are described. (1475)

CIRCULAR OUTERWEAR YARDGOODS. PART 3. C. Reichman. Knitted Outerwear Times 30: 3-7 (Mar. 20, 1961).
The machines, fibers and yarns used, and the manufacturing cycle from yarn to finished fabric for swimwear and high-pile fabrics are described. (1476)

SPJ CIRCULAR PURL JACQUARD KNITTING MACHINE. Wildt Mellor Bromley Ltd. Hosiery Trade J. 68: 109 (Mar. 1961).
The use of the SPJ for bulk knit rib jacquard fabrics by half gage purl knitting is illustrated. See also abstr. 1889/60. (1477)

TECHNICAL FOCUS ON PURL KNITTING. J. B. Lancashire. Hosiery Trade J. 68: 84-88 (Mar. 1961).
The two methods of making purl fabrics, e.g. by the use of single-headed or double-headed needles, are explained, and the development of the various types of machines used in their manufacture is traced. (1478)

LEBOCEY EMAVIT 44 FINE GAGE BEARDED NEEDLE UNDERWEAR FABRIC UNIT. G. Lebocey & Cie. Hosiery Trade J. 68: 104-105 (Mar. 1961). (1479)

LHDS-6 CIRCULAR LINKS MACHINE. Wildman Jacquard Co. Knitted Outerwear Times 30: 7, 11, 38 (Feb. 27, 1961).
The LHDS-6 model retains all the regular features of the LH-6 machine but the jacquard mechanism camming has been redesigned so that an individual needle may be selected at each cylinder knitting section or feed for any one of four different actions: knit, tuck, transfer, or welt. (1480)

EUROPEAN KNITTING DIARY. R. Innes. Hosiery Trade J. 68: 99-102 (Feb. 1961).
Among the developments discussed are: modified Kettma linker; Schmidt DX yarn tensioning meter; Mayer needle bar assembly for raschel machines; Swedish needle selection arrangement for jacquard flat bar machines; Czech fabric takedown for multifeed circular machines; Czech drawoff for full fashioned hosiery blanks; Groz-Beckert latch needle; East German flat jacquard glove machine; and Jahreis steaming and shrinking unit. (1481)

EUROPEAN KNITTING DIARY. R. Innes. Hosiery Trade J. 68: 96-99 (Mar. 1961).
Among the developments noted are: needle damage detector for flat knitting machines; use of sleeving machine for collar production on flat knitting machines; hosiery elasticity tester; and simplified dyeing of crimped yarns. (1482)

PRACTICAL HINTS FOR KNITTERS AND KNITTER-MECHANICS. PART 4. AUTOMATIC V-TYPE MACHINES. Hosiery Trade J. 68: 135-137 (Feb. 1961). (1483)

PRACTICAL HINTS FOR KNITTERS AND KNITTER MECHANICS. PART 5. AUTOMATIC V-TYPE MACHINES (continued). Hosiery Trade J. 68: 102-103 (Mar. 1961).
Pointers on cam setting, checking spring-loaded stitch cams, punching needle selecting cards, building up pasteboard cards, and causes of cuts and dropped stitches. (1484)

LIBA EXCENTRA WARP KNITTING MACHINES. Liba Maschinenfabrik GmbH. Hosiery Trade J. 68: 144-145 (Feb. 1961).
Features of 3 and 4 bar Excentra machines are outlined. (1485)

ROTARY RAPID WARP KNITTING MACHINE. Karl Mayer GmbH. Hosiery Trade J. 68: 90-93 (Feb. 1961).
An interesting design feature of the Rotary Rapid machine is a newly developed eccentric drive and the use of roller bearings on all points. Operation and construction of knitting elements and letoff, takeup, and patterning mechanisms are also described. (1486)

SERVO STOP ELECTROMAT VS V-TYPE FLAT KNITTING MACHINE. Hosiery Trade J. 68: 116-117, 136 (Mar. 1961).
The electromagnetic control system embodied in the Electromat VS is described and illustrated. (1487)

BRITISH MACHINERY FOR KNITTING DOUBLE JERSEY. PART 1. J. B. Lancashire (Leicester Coll. Technol.). Knitted Outerwear Times 30: 9-11, 38-39 (Mar. 6, 1961).
Features of the Wildt-Mellor Bromley 4/LM, 4/LM/7, 6/L/6, 6/LS/6, 6/LM/6, 4/RD, and 5/RGS/2 are described. (1488)

SPANISH AUTOMATIC V-BED FLAT MACHINE. M. Mestre Mas Co. Knitted Outerwear Times 30: 7 (Mar. 20, 1961).
Features of the Mestre HLJ are noted. (1489)

KNITTING MACHINERY GAGE STANDARDIZATION. A. Tremelloni and G. Marchisio. Hosiery Trade J. 68: 110-111 (Mar. 1961).
A proposed international system of gage measurement (Method International Direct or MID), presented to the fifth conference of the Intern. Federation of Knitting Specialists at Troyes, France, is described. (1490)

FEATURES OF FOUQUET CIRCULAR WARP UNIT, MODEL DIAGONAL. R. Innes. Knitted Outerwear Times 30: 5, 37-38 (Feb. 27, 1961). (1491)

LIBA EXCENTRA LARGE CAPACITY TAKEUP. Coates Smith Ltd. Hosiery Trade J. 68: 89 (Mar. 1961).
The operation and advantages of the newly developed takeup for warp knitting are noted. (1492)

Fabrics C4

TROUBLESHOOTING THE COTTON/NYLON BLENDS. C. J. Pope and L. I. Weiner (U.S. Quartermaster Research & Eng. Center). Textile Inds. 125: 86-90 (Mar. 1961).
An experimental technique was employed to determine which fiber type in cotton/nylon blended fabrics failed predominantly under abrasive conditions. An analysis of staple length distributions indicated that the cotton fibers of the blend were significantly damaged during wear, thus reducing the fibers per cross section to a comparatively few nylon fibers to sustain the abrasive action. 11 refs. (1493)

MIXTURE FABRICS. Ciba Rev. 12, No. 141: 2-28 (Dec. 1960).
Synthetic fibers in blended fabrics, by J. L. Hallett, Jr., p. 2-7; Medieval mixture fabrics, by M. Braun-Ronsdorf, p. 8-15; Mixture fabrics of later times, by M. Braun-Ronsdorf, p. 16-26; Brief guide to mixture fabrics of the nineteenth century, p. 27-28. 20 refs. (1494)

CRUSH RECOVERY OF CARPETING OF CHEMSTRAND'S CUMULOFT NYLON. Chemstrand Corp., Pensacola, Fla. Mar. 1961. 2 p. Bull. No. 8, suppl. no. 1. (1495)

INDUSTRIAL APPLICATIONS OF DYNEL FABRICS. Textile Inds. 125: 95, 97 (Mar. 1961).
Present and potential uses of Dynel are briefly surveyed. (1496)

TUFT-DYED CARPETS. Bigelow-Sanford Carpet Co. Am. Textile Reptr. 75: 35 (Mar. 9, 1961).
In the Tuft-Dyed process, multi-colored pattern is applied to undyed carpet by a precision forcing of the tufts into the shaped dye-wells of a pattern mold. Deep-penetrating dyes, regulated by control pumps, impregnate the tufts to the depth of the carpet's pile. (1497)

WORK OF THE BRITISH STANDARDS INSTITUTION CONSUMER ADVISORY COUNCIL WITH PARTICULAR REFERENCE TO TEXTILES. A. F. B. Nall (Brit. Standards Inst.). J. Textile Inst. 52: P4-P14 (Jan. 1961). (1498)

CONSUMER COMPLAINTS: SOURCE OF INFORMATION FOR PRODUCERS. S. L. Myers (Morgan State Coll.). Am. Dyestuff Reptr. 50: 167-170, 189-190 (Mar. 6, 1961).
This analysis of test data from laboratories of six department stores, one mail-order house, and one trade association indicates that consumer complaints appear to have a predictive value concerning the changing competitive position of different types of textiles. The need for the implementation of a program of coordination among testing laboratories is stressed. (1499)

NEW AGE FOR KING COTTON. B. M. Kopacz, C. L. Hoffpauir, and V. R. Bourdette (So. Reg. Research Lab.). Canvas Products Rev. 36: 32, 33, 76, 77 (Mar. 1961).
Progress being made in the production of improved cotton fabrics that require little care, that are resistant to soil, stains, fire, and mildew, and that have improved warmth properties is reviewed. (1500)

SPOT AND STAIN REMOVAL IN THE TEXTILE INDUSTRY. G. Rordorf. Textil-Praxis (English ed.) No. 4: 176-178 (Dec. 1960). (1501)

SHIRING OR FLASHING. W. T. McLoughlin (Brit. Rayon Research Assoc.). Man-Made Textiles 38: 34-42 (Feb. 1961).
Weaving experiments on the effects of loom settings and frictional properties of weft yarns on shiring are reported. On the basis of the loom experiments the use of low warp tension, shed crossing well before front-center, and a spring reed is recommended to minimize the fault. The friction measurements have shown that the fault is due to stick-slip during beatup, and have provided a satisfactory method of predicting the performance of a given weft compared with any other weft. (1502)

USING CRAMMED STRIPES TO VARY A DESIGN. E. B. Berry. Textile Bull. 87: 103-111 (Mar. 1961). (1503)

DESIGN IN WOVEN STRUCTURE: CENTER WARP STITCHED DOUBLE CLOTHS (continued). D. C. Snowden. Wool Rev. 34: 17, 18 (Feb. 1961). (1504)

MAXIMUM CONSTRUCTION TABLES FOR FABRICS OF CRESLAN ACRYLIC FIBER AND OTHER FIBERS. H. C. Haller (Am. Cyanamid Co.). Am. Dyestuff Reptr. 50: P171-P174 (Mar. 6, 1961).
The basis and use of a set of engineering charts compiled for the purpose of calculating limits for fabric construction are explained. Single copies of the tables can be obtained by mill management personnel from the Fibers Division, American Cyanamid Co., 111 West 40th St., New York 18, N.Y. 5 refs. (1505)

FABRIC DEVELOPMENT FROM A PRACTICAL DYER'S STANDPOINT. J. E. Greer (Greensboro Finishing Co.). Am. Dyestuff Reptr. 50: P135-P137 (Feb. 20, 1961).
Potential cost and processing problems encountered by the dyer in handling new fabrics based on synthetic fibers are examined. (1506)

AN INTRODUCTION TO BIAXIAL-STRESS PROBLEMS IN FABRIC STRUCTURES. A. D. Topping (Goodyear Aircraft Corp.). Am. Soc. of Mechanical Engineers, 29 West 39 St., New York 18, N.Y. 1960. 9 p. ASME paper no. 60-RP-8. $1.00.
The reasons for the increasing interest in fabrics as structural materials are discussed, and the superiority of fabric to isotropic sheet and films in tear resistance is given an analytical basis. The shearing stiffness of single-ply fabrics is investigated and found to be a function of the stress level and of the boundary conditions. Two important special cases are analyzed, both of which yield the result that the stiffness is equal to the stress in one set of threads. Experimental data from inflated cylinders of neoprene-coated nylon (1) with threads at 45 deg with the cylinder axis, loaded by axial tension, and (2) with threads circumferential and axial, tested in torsion, support the theory, which can be extended to apply to shearing deflections of airmat beams. 24 refs. (1507)

MECHANICAL PROPERTIES OF TEXTILE FABRICS. PART 3. SHEARING AND BUCKLING OF VARIOUS COMMERCIAL FABRICS. J. Lindberg, B. Behre, and B. Dahlberg (Swed. Inst. Textile Research). Textile Research J. 31: 99-122 (Feb. 1961).
Load-deformation curves obtained by the methods for shearing and buckling described in Parts 1 and 2 of this series for 66 different fabrics are analyzed. The characteristic features of both the loading and the recovery part of shearing and buckling curves, the relation between simple and complex deformation, and the relation between recovery curves and crease recovery properties of fabrics are discussed. 10 refs. (1508)

FABRIC-FOAM LAMINATES. H. S. Howard (Precision Processing Corp.). Modern Textiles Mag. 42: 50-53 (Mar. 1961).
The technological developments responsible for the rapid success of fabric/urethane foam laminates, their characteristics, applications, and the currently available methods of producing them (fusion, adhesive, and quilting) are described. (1509)

CURON POLYURETHANE FOAM AND CURON-IZING. Reeves Bros. Am. Textile Reptr. 75: 47-50 (Mar. 23, 1961).
The properties and advantages of Curon for apparel linings, interlinings, and shell laminates and the Curon-izing dry bonding process are described. (1510)

NYLON AND TERYLENE IN CONVEYOR BELTING. Engineering 188: 71-72 (Aug. 21, 1959).
Data on cost, mechanical properties, and resistance to abrasion, fatigue, chemicals, and heat are offered to indicate the factors responsible for the increasing use of nylon and Terylene in preference to cotton and viscose in conveyor belting. (1511)

SATISFIED WITH YOUR SEAMS? I. W. Harrison (English Sewing Cotton Co. Ltd). Hosiery Trade J. 68: 129-130 (Mar. 1961).
The theory and practical aspects of satisfactory seam formation in manmade fiber fabrics are briefly summarized. (1512)

DRI-SIL: COMBINING QUALITY CONTROL AND MARKETING. R. J. Newton (Midland Silicones Ltd). Man-Made Textiles 38: 91-94 (Feb. 1961).
Dri-Sil is the trade mark used by Midland Silicones to denote a silicone finish imparted to textile fabrics by one of their licensees, and which, having been tested to the required standard of water repellency and/or stain resistance, is available for identification on garments made from the fabric. The quality control system governing the use of the Dri-Sil labels, the advantages conferred by the finish, and its sales promotion are described. (1513)

SOME MECHANICAL PROPERTIES OF KNITTED GLASS LAMINATES. A. W. Marvin (Royal Coll. Sci. & Technol., Glasgow). J. Textile Inst. 52: T21-T25 (Jan. 1961).
Mechanical tests on seamless nose cones for the aircraft industry fabricated from knitted glass fabrics are reported. 3 refs. (1514)

WEAVING BOUCLE PILE FABRICS. A. W. Schulte. Textil-Praxis (English ed.) No. 4: 169-170 (Dec. 1960). (1515)

PAPER DRYING ON FELT-COVERED CYLINDERS. COMPARISON OF VARIOUS FELT TYPES. S. Ponton. Svensk Papperstidn. 62, No. 19: 692-699 (1959). In Swedish. Through BCIRA 39: 4590 (1959).
The drying capacity and steam economy of wool, cotton, Terylene, and Tacryl felts, and of Perlon wire are compared, and a survey is made of the role of felt in the drying process. (1516)

FINISHING D

FUTURE OF AUTOMATICITY IN THE HOSIERY DYEHOUSE. H. White (Malna Hosiery Co.). Hosiery Underwear Rev. 44: 63, 64, 66, 78 (Mar. 1961).
The author comments on the past lack of success in various mills with automatic boarding and dyeing machines and on their future potential. (1517)

SURVEY OF BRITISH DYESTUFFS AND CHEMICALS. Man-Made Textiles 38: 94 (Feb. 1961).
Additional products introduced during 1960 are listed. See also abstr. 548/61. (1518)

STUDIES ON ELIMINATION OF STATIC. PART 3. CONTROL OF CHARGE QUANTITY AND POLARITY BY MEANS OF A ROLLER HAVING ELECTRIC POTENTIAL. N. Murasaki. J. Textile Machy. Soc. Japan 13, No. 11: 781-785 (1960). In Japanese (English summary). Through BCIRA 41: 238 (1961).
For all cloths tested, except nylon, no static charge was obtained at a voltage below 8-10 volts dc. (1519)

MODERN FINISHING MACHINERY DEVELOPMENTS. J. B. Horsley (Mather & Platt Ltd). Textile Weekly 61 (1): 383 (Feb. 17, 1961).
The relationship between increased efficiency and machine improvements in kiering, bleaching, drying, mercerizing, dyeing, printing, and tentering is discussed. (1520)

FINISHING OF CANDLEWICK BEDSPREADS. Shepherds Ltd. Textile Weekly 61 (1): 148-149 (Jan. 20, 1961). (1521)

TEXTILE FINISHING UNITS: DEVELOPMENTS OVER THE LAST 50 YEARS. S. Brooks (H. W. Butterworth & Sons). Textile Bull. 87: 99-101 (Mar. 1961). (1522)

DYEING AND FINISHING TRIACETATE FABRICS. D. Hampshire (Courtaulds Ltd). Textile J. Australia 34: 1393-1396 (Jan. 20, 1960).
Practical pointers on setting (by dry or moist heat), dyeing, S finishing (surface saponification), and pleating of triacetate fabrics are offered. (1523)

Chemical processes D1

CHLORITE BLEACHING. K. Günther. Melliand Textilber. 41, No. 10: 1237-1243 (1960). In German. Through BCIRA 41: 67 (1961).
Literature referring to chlorite bleaching is reviewed and a new open-width bleaching installation (Deutsche Steinzeugwarenfabrik) is described, which is made of special stoneware to eliminate corrosion risks and which makes it possible to use any known bleaching agent according to the requirements of the material to be bleached. 57 refs. (1524)

MODE OF ACTION AND EXAMINATION OF OPTICAL BLEACHING AGENTS WITH SPECIAL REFERENCE TO THE PAD-THERM METHOD. H. Jörder and J. Scheel. Z. ges. Textil-Ind. 62, No. 21: 941-946 (1960). In German. Through BCIRA 41: 70 (1961).
The physical principles of optical bleaching are discussed, and measurement of the fluorescence intensity of optically-bleached fabrics is described. The use of a whiteness scale is proposed for the evaluation of the bleaching effect, and investigations on Trevira fabrics are reported, which were treated with Uvitex ERN concentrate by the pad-therm method (Ciba AG). (1525)

METALIZATION OF TEXTILES. E. P. Frieser. Textil-Rundschau 15, No. 10: 556-558 (1960). In German. Through BCIRA 41: 82 (1961).
In this review, the author discusses the methods used, the behavior of various fibers, the appearance and properties of the treated fabrics, and evaluation of the effect from the viewpoints of stability to photochemically-active radiation, protection against heat rays, improvement of the heat-retaining ability, and soilability. Some trade names of metalized fabrics and technical uses are enumerated. (1526)

HOW TO MAKE PA COTTON. C. L. Sens, W. G. Sloan, and A. S. Cooper, Jr. (So. Reg. Research Lab.). Textile Inds. 125: 101-116 (Mar. 1961).
Results of an investigation to determine the optimum percentage of PA cotton practical to use in blends (from the standpoint of processing and heat resistance) and to determine the stage of mechanical processing to yield a product that is optimum for acetylation by comparing the physical properties of PA fabrics prepared from (1) blended PA stock, (2) PA roving, (3) PA yarn, and (4) PA fabric are presented. Fabrics acetylated in fabric form or as yarn were slightly better than fabrics produced from acetylated roving and considerably better than fabrics produced from a blend of acetylated and untreated cotton. 5 refs. (1527)

LUBRICANTS IN RESIN FINISHING. R. W. Williamson. Dyer 125: 175-176 (Feb. 10, 1961).
Brief account of the required properties of lubricants in resin finishing and the three classes in common use (softeners, durable water repellents, and polyethylene emulsions) and their effects. (1528)

METALIZATION OF TEXTILES, WITH SPECIAL REFERENCE TO VACUUM METALIZATION AND VAPORIZATION. J. Schenkel. Textil-Rundschau 15, No. 10: 549-553 (1960). In German. Through BCIRA 41: 81 (1961).
Application of metals in the atomic state is discussed. The metal can be deposited on the fabric from the vapor, gaseous or aqueous phase. Metalization methods (wet: galvanic and chemical; dry: decomposition of metal-containing compounds, cathode-atomization and vacuum vaporization) and their importance are described with reference to their advantages and disadvantages, and their suitability for the treatment of textiles, as well as the special use of vacuum metalization of textiles with aluminum, where the effect depends to a great extent upon the type of fabric, chemical structure, water content and internal plasticizers, and cleanliness of the surface. 18 refs. (1529)

RESPONSE OF COTTONS TO CHEMICAL TREATMENTS. PART 1. FIBER MERCERIZATION AND UREA TREATMENTS. L. Rebenfeld (Textile Research Inst.). Textile Research J. 31: 123-130 (Feb. 1961).
This paper considers in detail the manner in which different cottons respond to laboratory mercerization and related treatments and has two main objectives; to determine whether different cottons exhibit different responses and, if possible, to establish the structural characteristic of a cotton fiber which governs the response pattern. For the purposes of this research, the response is defined and evaluated in terms of changes in fiber mechanical properties resulting from the treatments, e.g. length, elastic modulus, breaking extension, and breaking tenacity. Many changes in fiber properties due to the chemical treatments could be interpreted in terms of fibrillar orientation of the six cottons as estimated by the x-ray angle. 20 refs. (1530)

SOME THEORETICAL CONSIDERATIONS OF CELLULOSE CROSS-LINKING. J. L. Gardon and R. Steele (Rohm & Haas Co.). Textile Research J. 31: 160-171 (Feb. 1961).
Much available chemical evidence supports the hypothesis that covalent cross-linking is the best way to improve the resilience of cellulosic fabrics. This paper reviews the theories relating physical properties to cross-linking in rubbery polymers and shows that they apply in some qualitative aspects to cellulose. Particularly, the observed changes in swelling, solubility, modulus, tensile strength, and resilience are consistent with these theories. On the basis of published data, the concentration of intermolecular cross links is estimated; it is found that at least every twenty-fifth accessible anhydroglucose unit has to be intermolecularly cross-linked when maximum crease recovery values are attained. In rubbery polymers, substantial changes in mechanical properties are obtained at much lower levels of cross-linking. This difference between cellulose and rubbers in response to cross-linking is probably due to the polar nature of cellulose. 52 refs. (1531)

ACID HYDROLYSIS OF DIMETHYLOL UREA POLYMERIZED IN COTTON. K. C. Eapen, J. R. Modi, and P. C. Mehta (Ahmedabad Textile Ind. Research Assoc.). (Letter to the editor). Textile Research J. 31: 181-182 (Feb. 1961). (1532)

DETERGENTS FROM DIGLUCOSYLUREA. P. R. Steyermark, T. R. Steadman, and R. P. Germann (W. R. Grace & Co.). Ind. Eng. Chem. 53: 212-214 (Mar. 1961).
Report on the synthesis and detergency evaluation of a new class of nonionic detergents. (1533)

FINISHING OF OPTICALLY BLEACHED COTTON FABRICS WITH NITROGEN-CONTAINING RESINS. W. Vauck and B. Junghans. Deut. Textiltech. 10: 528-530 (1960). In German. Through BCIRA 41: 236 (1961).
Tests on lightfastness and yellowing of optically-bleached cotton poplins finished with dimethylolurea, dimethylolethyleneurea, tetramethylolmelamine and dimethyloltriazone, with addition of ammonium nitrate, ammonium sulfate, ammonium chloride, zinc chloride or magnesium chloride as catalyst are reported. (1534)

CHEMISTRY OF THERMOSETTING RESINS AND RELATED COMPOUNDS. A. R. Smith. Dyer 125: 175 (Feb. 10, 1961).
Among the developments mentioned are methylation of urea formaldehyde resins; thiourea formaldehyde resins for nylon stiffening; melamine formaldehyde and cyclic urea resins in relation to chlorine resistance in cellulose fabrics. (1535)

CUPRAMMONIUM INSOLUBILITY AS A TEST FOR COVALENT CROSS-LINKING OF CELLULOSE. R. D. Mehta and P. C. Mehta (Ahmedabad Textile Ind. Research Assoc.). (Letter to the editor). Textile Research J. 31: 182-184 (Feb. 1961).
The insolubility in cuprammonium hydroxide of cellulose treated with creaseproofing resins under certain conditions has been generally regarded as evidence for the cross-linking of cellulose with the resin. In an earlier paper (abstr. 3562/60) some data were given questioning the validity of this test in the case of DMU-treated cellulose. More data in support of this are presented here. (1536)

CREASE-RESIST FINISHES ON FILAMENT RAYON. D. H. Ogden (Brit. Rayon Research Assoc.). Dyer 125: 283 (Feb. 24, 1961).
The effects of resin treatment on a viscose taffeta lining fabric and a plain woven spun rayon fabric of similar weight were studied in an attempt to assess the requirements of an easy care finish for rayon fabrics. The problem of fabric embrittlement as related to crease recovery is briefly discussed. (1537)

IMPREGNATION OF CELLULOSIC FABRICS TO REDUCE THEIR CREASABILITY. J. Brzezinski. Przeglad Wlok. 14, No. 9: 501-504 (1960). In Polish. Through BCIRA 41: 233 (1961).
The use of cyclic methylol urea derivatives as creaseproofing agents, the effect of the reactant on the recovery angle and the breaking strength of the fabric are discussed, and optimum impregnation conditions are determined. Attention is drawn to the fact that the abrasion resistance of the fabric is reduced by the addition of an acrylic resin dispersion, and the possibility of decreasing chlorine retention by the use of triazone derivatives is pointed out. (1538)

HAND LAUNDERING AND DRYCLEANING OF WOOL SWEATERS. M. A. Morris and B. W. Mitchell. J. Home Econ. 53: 212-217 (Mar. 1961).
The effects of hand laundering and commercial drycleaning on white wool sweaters were compared. A soap and a syndet were used in laundering; drycleaning was done in perchlorethylene and Stoddard solvent. Dimensional change, change in reflectance and color, and degree of wool fiber modification were measured. Greater fiber modification occurred during laundering than during drycleaning. Garments laundered in syndet shrank more than did those laundered in soap or drycleaned. All cleaning methods caused a decrease in fabric reflectance. 10 refs. (1539)

THEORY AND PRACTICE IN CREASEPROOFING. S. Jost. Textil-Rundschau 15, No. 11: 595-601 (1960). In German. Through BCIRA 41: 232 (1961).
Literature dealing with physical changes and chemical reactions taking place during treatment of cellulose with various creaseproofing agents is reviewed. Results of theoretical studies support the view that the properties of the crease resistant finish are due to a cross-linking reaction between the hydroxyl groups of the cellulose molecule and the resin polymer. During formation of the lattice structure, hydrogen bonds are formed by the action of heat, which can be destroyed again by swelling in water. 13 refs. (1540)

DESIZING WITH SODIUM BROMITE. R. Freytag. Textil-Rundschau 15, No. 11: 579-586 (1960). In German. Through BCIRA 41: 214 (1961).
Results are reported of large scale desizing experiments, carried out on the jig and padder after ascertaining that the bromite solutions do not affect the affinity of cotton for direct, vat, and azo dyes. Experiments also showed that V4A-steel was not attacked after more than 1,000 hr in a boiling alkaline bromite solution containing 10 g/l active bromine, while copper and bronze were very rapidly oxidized. The desizing effects were not inferior to those obtained by enzymatic desizing (see also abstr. 3985/60). (1541)

AUTOMATIC CONTROL OF TEXTILE WET FINISHING PROCESSES. M. Zerdik. Tekstil 9, No. 11: 861-877 (1960). In Serbocroat. Through BCIRA 41: 432 (1961).
Extensive analysis of the rinsing conditions and correlation of all factors with the concentration variations in the rinsing water and in the material make it possible to determine more general values and to obtain information on the optimum rinsing conditions for various cases of wet treatment. (1542)

OPEN-WIDTH FINISHING AND DYEING OF CELLULOSE, FULLY SYNTHETIC, AND MIXED FABRICS. W. T. Swatek. Melliand Textilber. 41, No. 6: 746-749; No. 10: 1259-1263 (1960). In German. Through BCIRA 41: 72 (1961).
Some new constructions of the Swedish firm Svetema (pad-roll desizing machine; pad-roll bleaching machine; open-width counter-current washing machine; two-roller dyeing padder; pad-roll dyeing installation, Rydboholm system, and pad-steam installation) are described and illustrated. (1543)

APPLICATION OF THE APO-THPC FLAME RETARDANT TO COTTON FABRIC. G. L. Drake, Jr., J. V. Beninate, and J. D. Guthrie (So. Reg. Research Lab.). Am. Dyestuff Reptr. 50: 129-134 (Feb. 20, 1961).
A typical laboratory and commercial procedure for the application of the APO-THPC flame-retardant to cotton fabric is given. The finish can be readily applied to cotton using commercial equipment, the resulting fabric properties being comparable to those of fabrics processed in the pilot plant. Commercial processing by various finishers necessitated some modification in the laboratory technique to adapt it to existing equipment. The functions of the various components of the treating solution and the necessary precautions to be observed during fabric processing are discussed. 8 refs. (1544)

SAPAMINE PA AND SAPAMINE PB SOFTENERS FOR SYNTHETIC FIBERS. G. Dürig (Ciba Ltd). Ciba Rev. 12, No. 141: 34-36 (Dec. 1960).
The properties and applications of these cationic softeners are summarized. (1545)

BOARDING MACHINES FOR NYLON STOCKINGS. V. Blaj. Industria Textila 11, No. 11: 435-440 (1960). In Rumanian. Through BCIRA 41: 239 (1961).
Boarding machines are surveyed, and the advantages of an automatic Rumanian machine, made at Varga Katalin mills, Cluj, are discussed. (1546)

LAUNDERING STABILITY OF ELASTIC FABRICS. R. L. Galbraith, J. F. Finch, and J. Maclin. J. Home Econ. 53: 206-211 (Mar. 1961).
The effects of washing temperature, detergent type, and drying method on the elastic properties of two rubber-based power net fabrics, one spandex-based power net, and two rubber-based, 1/2-inch braids are reported. 7 refs. (1547)

GEOMETRY AND PROPERTIES OF TWO-BAR TRICOT FABRICS OF ACETATE, VISCOSE, AND COTTON. H. M. Fletcher and S. H. Roberts (Agri. Research Serv.). Textile Research J. 31: 151-159 (Feb. 1961).
Previous investigations of tricot fabrics in relation to physical properties and dimensional change due to laundering were extended to include another fiber, cotton, and the determination of effect of different amounts of yarn twist on fabrics of the fibers previously studied. Twenty two-bar tricot fabrics of 70/1 cotton yarn with different runner ratios, and 20 each of acetate and viscose yarns of 75 denier with 2-1/2, 10, 20, or 30 tpi were included in the research. The effect of twist upon other relationships was established from observed data of stitch length, stitch density, diameter of yarn, runner ratios, wales and courses per inch, strength, and elongation. Immediate elastic recovery, permanent set, and delayed recovery were evaluated for a wide range of stress-strain levels. 5 refs. (1548)

STUDY OF THE ACTION OF SOME SALTS UPON CAUSTIC SODA IN THE MERCERIZING PROCESS. E. Kimmel and C. Iovita. Industria Textila 11, No. 11: 446-448 (1960). In Rumanian. Through BCIRA 41: 231 (1961).
The effects of different salts, at different concentrations, have been studied by measuring the contraction of cotton yarn in a mercerizing liquor. Tabulated and graphed results (NaCl, Na_2CO_3, Na_2SO_4, $Na_2S.9H_2O$, NH_4Cl, $(NH_4)_2CO_3$) are shown. (1549)

DISCOLORATION OF WOOL GREASE IN THE RECOVERY PROCESS. C. A. Anderson and E. V. Truter (Leeds Univ.). J. Soc. Dyers Colourists 77: 63-64 (Feb. 1961).
Observations on the discoloration of wool grease in solvent scouring and in the commercial centrifugal recovery system are reported. (1550)

SURFACE ACTIVE COMPOUNDS. R. E. Wagg (Brit. Launderers' Research Assoc.). Dyer 125: 243-247 (Feb. 24, 1961).
The chemistry and mechanism of action of surface active agents are discussed, and their applications in the textile industry, with particular emphasis on detergency, are described. (1551)

DEVELOPMENT OF WATER REPELLENT AGENTS AND METHODS IN THE TEXTILE INDUSTRY. SURVEY OF THE PRESENT STATE OF THE WATERPROOFING TECHNIQUE. W. Krause. Z. ges. Textil-Ind. 62, No. 20: 882-888; No. 22: 990-993 (1960). In German. Through BCIRA 41: 84 (1961).
Types of waterproofing agents, their constitution and mode of action, and the most important methods are reviewed. 36 refs. (1552)

SINGLE-BATH METHOD FOR WATERPROOFING OF COTTON FABRICS. B. S. Smirnov. Tekstil. Prom. 20, No. 3: 70-71 (1960). In Russian. Through BCIRA 41: 85 (1961).
By the method described, good results were obtained by impregnating the dry fabric with an emulsion consisting of 40 g stearine, 40 g paraffin, 60 g glue, 25 g ammonia (25%), and 50 g aluminum acetate (d. 1.03). A stearine emulsion (without paraffin) was found to be less efficient. (1553)

IMPREGNATION OF FABRICS WITH ORGANOSILICON COMPOUNDS. N. V. Kalugin. Tekstil. Prom. 20, No. 3: 58-61 (1960). In Russian. Through BCIRA 41: 86 (1961).
Among the organosilicon compounds synthesized and tested, the preparations GMS-9 (alkylsiliconate and polysiloxanate in aqueous solutions) and GKZh-94 (obtained by hydrolysis of ethyldichlorsilane and subsequent polymerization) gave water repellent finishes which increased the light- and weathering fastness of the treated fabric. (1554)

Dyeing and printing D2

DYEING OF CELLULOSE ACETATE WITH DISPERSE DYES. PART 10. SATURATION VALUES WITH MIXTURES OF DYES. C. L. Bird and P. Rhyner (Leeds Univ.). J. Soc. Dyers Colourists 77: 12-16 (Jan. 1961).
With disperse dyes which are insufficiently soluble in cellulose acetate fiber to yield a full shade, the difficulty can be overcome by using a mixture of two or three dyes of similar hue and chemical composition. The components of the mixture must be carefully chosen, as some dyes interact to give a compound which has low solubility in the fiber. There is no evidence that the solubility in cellulose acetate of a mixture of disperse dyes can exceed the sum of the solubilities of the individual components. Interaction can also occur when a mixture of disperse dyes is dissolved at 22° C in ethanol, hexane, or 0-2% aqueous Ultravon W. 7 refs. (1555)

DYEING COURTELLE ACRYLIC FIBER. J. S. Ward (Courtaulds Ltd). Dyer 125: 137, 139 (Jan. 27, 1961).
Progress in the basic dyeing of Courtelle is discussed, and brief mention is made of the dyeing behavior of Courtelle with premetalized and disperse dyes. (1556)

UNION FAST HW DYES APPLIED TO WOOL/CELLULOSE BY THE ALBATEX HW ONE-BATH METHOD. R. Casty (Ciba Ltd). Ciba Rev. 12, No. 141: 30-32 (Dec. 1960).
The advantages of the Albatex HW one-bath method are summarized, and the fastness properties of the newly developed Union Fast HW dyes are tabulated. (1557)

POLITICS, PHOENIX, AND PATERSON: TEXTILE PROCESSING IN NEW JERSEY. S. M. Edelstein (Dexter Chem. Corp.). Am. Dyestuff Reptr. 50: 123-128 (Feb. 20, 1961).
History of the dyeing industry in New Jersey. (1558)

CONTINUOUS DYEING OF WOOL. B. Milligan. Textile Merc. 144: 201-202 (Feb. 10, 1961).
Investigations on the potential usefulness of the formic acid process (anhydrous formic acid used as dye solvent) for the continuous dyeing and screen printing of wool are discussed. (1559)

DYEING BLENDS OF WOOL AND MANMADE FIBERS. J. A. Leddy (Geigy Chem. Corp.). Can. Textile J. 78: 41-50 (Feb. 17, 1961).
Recommendations on dyestuff selection and dyeing techniques for wool blends with polyester fibers (Vycron, Terylene, Fortrel, Dacron 50 and 60, and Kodel) and with acrylic fibers (Orlon 42, Acrilan 16, and Zefran). (1560)

CONTRIBUTION TO THE MUSHROOM HEAD REACTION AND EXPERIMENTS ON COTTON DYED WITH CIBACRON DYES. P. Ulrich and E. Gallacchi. Textil-Rundschau 15, No. 11: 586-591 (1960). In German. Through BCIRA 41: 257 (1961).
Methods for detecting chemical tendering in cellulose fibers are reviewed, with special reference to the examination of Cibacron-dyed mercerized and unmercerized cotton fabrics by determining the degree of polymerization, the tensile strength and the swellability (mushroom head reaction at the cut ends of cotton fibers in sodium hydroxide). No detectable tendering of the cotton occurred as a result of the reaction of Cibacron dyes with the fiber. 13 refs. (1561)

PRIMASOL FP, NEW DYE ASSISTANT IN MACHINE DYEING COTTON WITH INDANTHRENE DYES. E. Wilhelm. Textil-Praxis (English ed.) No. 4: 187-192 (Dec. 1960).
Primasol FP is claimed to have an excellent wetting power and, therefore, to be especially useful in dyeing raw cotton; to retain the soft handle of the material; to have a sufficiently high emulsifying action for the waxes and fats present in raw cotton and sufficient leveling power for the development of dyeings; to produce brighter and deeper shades, to be insensitive to alkali concentrations used in vat dyeing; to have a low foaming power; not to lead to 100% exhaustion of the pigment bath and, therefore, producing favorable conditions for obtaining level dyeings; to eliminate the necessity of adding electrolytes and acids; to produce favorable conditions for bringing the dyeings up to shade. The dyeing method is described. (1562)

SOLVENT-ASSISTED NON-BARRY DYEING OF POLYAMIDES ON A JIG: BENZYL ALCOHOL PROCESS. H. Stern (Ciba Ltd). Ciba Rev. 12, No. 141: 32-33 (Dec. 1960). (1563)

CONSTITUTION AND EFFECTIVENESS OF ORGANIC SUBSTANCES AS CARRIERS DURING DYEING OF POLYESTER FIBERS WITH DISPERSE DYES. PART 3. P. Senner. Textil-Praxis 15, No. 11: 1168-1171 (1960). In German. Through BCIRA 41: 223 (1961).
In conclusion of previous articles (abstr. 1083/61 and 1084/61), the author reviews and critically examines the individual theories referring to the mechanism of carriers, and compares them with experimental findings. (1564)

UNIVADINE W IN DYEING CARBONIZED WOOL FABRICS. J. Lanter (Ciba Ltd). Ciba Rev. 12, No. 141: 36 (Dec. 1960).
The improvement in the leveling and penetration of acid dyes in the presence of Univadine W leveling agent is illustrated. (1565)

VACUUM DYEING OF FABRICS. N. D. Ilyashuk. Textil-Praxis (English ed.) No. 4: 183-187 (Dec. 1960).
Degasified fibers absorb dyes in vacuum more readily than under atmospheric conditions. 15 refs. (1566)

DYEING OF WOVEN AND KNITTED FABRICS FROM SYNTHETIC FIBERS ON BEAMS IN HIGH TEMPERATURE EQUIPMENT. F. Graf. Z. ges. Textil-Ind. 62, No. 21: 947-949 (1960). In German. Through BCIRA 41: 73 (1961).
Some practical experiences are reported, referring to the industrial use of the Thies high temperature dyeing apparatus described in a previous paper (abstr. 3608/60), and directions are given for carrying out the dyeing process. (1567)

DYE JIGGER WITH DIFFERENTIAL GEAR MECHANISM. PART 1. ANALYSIS OF MECHANISM. H. Azuma, S. Taniyama, and M. Iwahashi. J. Textile Machy. Soc. Japan 13, No. 11: 807-814 (1960). In Japanese (English summary). Through BCIRA 41: 225 (1961).
The relationship between the tension and running speed of the cloth and the power of the motor has been studied theoretically. (1568)

DEVELOPMENT OF A MODERN CONTINUOUS METHOD AND ITS RELATIONSHIPS WITH OTHER CONTINUOUS DYEING POSSIBILITIES: HISTORICAL AND CRITICAL REVIEW. J. Müller. Melliand Textilber. 41, No. 10: 1253-1259 (1960). In German. Through BCIRA 41: 71 (1961).
The development of the first modern continuous vat-acid dyeing method, in which the electrofixer is used as developing unit (1938-1944 by the Vereinigte Färbereien AG) is described in detail, and other continuous dyeing methods (except pigment dyeing) are reviewed. (1569)

VAT DYEING TODAY. PART 1. O. W. Clark. Textile World 111: 78-86 (Mar. 1961).
The article covers: handling of vat dye pastes; basic chemistry of vat dyeing; role of assistants, leveling agents, and other chemicals; and preparation of vat-acid solutions. (1570)

ABSORPTION OF SATURATED AZOBENZENE VAPOR BY CELLULOSE ACETATE. F. Jones. J. Soc. Dyers Colourists 77: 57-62 (Feb. 1961).
The rates of absorption of saturated azobenzene vapor (serving as a model for disperse dyes) by cellulose acetate film were measured over a range of temperatures by means of a completely enclosed silica spring balance. The results indicate that diffusion is "anomalous" or non-Fickian below the upper second-order transition temperature (120° C) of cellulose acetate. Saturation values in the cellulose acetate were higher than those obtained by conventional dyeing methods, and it is concluded that the process of vapor-phase absorption differs fundamentally from the process of absorption from aqueous systems. 33 refs. (1571)

ADSORPTION OF NONIONIC DYES BY CELLULOSE. J. R. Aspland and C. L. Bird (Leeds Univ.). J. Soc. Dyers Colourists 77: 9-12 (Jan. 1961).
Linear isotherms were obtained on viscose rayon, in the range 20-90° C, with benzidine, o- and m-tolidine, and derivatives of aminoazobenzene. o-Tolidine has much higher affinity for cellulose than the non-coplanar m-tolidine. Heats of dyeing were found to be constant between 40 and 80° C. Nonionic dyes do not appear to form aggregates in aqueous solution. 7 refs. (1572)

FUGITIVE TINTS FOR DU PONT NYLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1961. 2 p. Bull. N-142 (replaces Bull. N-35). Free. (1573)

STUDIES IN ADSORPTION. PART 14. MECHANISM OF ADSORPTION OF DISPERSE DYES BY CELLULOSE ACETATES AND OTHER HYDROPHOBIC FIBERS. C. H. Giles (Royal Coll. Sci. & Technol., Glasgow). Textile Research J. 31: 141-151 (Feb. 1961).
Recent quantitative data for adsorption of disperse dyes on cellulose acetates and the relations between adsorption and dye structure are considered. The dye probably enters the fiber partly in monodisperse and partly in associated form, and penetrates between the fiber chains in regions inaccessible to water. This type of adsorption produces the characteristic linear adsorption isotherms. Several properties of the dye molecule determine the maximum adsorption of dye: size, number of hydrogen donor atoms, number of hydrogen acceptor atoms, and steric effects. Nylon and polyethylene terephthalate fibers appear to adsorb by a similar mechanism, polyethylene terephthalate showing additional (aromatic nucleus) dye-fiber association. 51 refs. (1574)

FUNDAMENTAL STUDIES ON DYEING WITH DISPERSE DYES. PART 2. ON INTERACTION BETWEEN 1,4-DIAMINOANTHRAQUINONE AND ORGANIC SOLVENTS. Y. Suda. J. Soc. Textile Cellulose Inds. Japan 16, No. 11: 962-967 (1960). In Japanese (English summary). Through BCIRA 41: 74 (1961).
The solubility of 1,4-diaminoanthraquinone in mixed solvents of carbon tetrachloride and ethyl alcohol was measured. The results are discussed. (1575)

FAST DYE RANGE FOR POLYESTERS. Koppers Co. Am. Textile Reptr. 75: 31-32 (Mar. 9, 1961).
Properties and official descriptions of the Amacron dyes, expressly developed for use on polyester fibers. (1576)

SIMPLE METHOD FOR DETERMINING DYE PENETRATION IN FABRICS. F. Nestelberger. Textil-Praxis (English ed.) No. 4: 179-182 (Dec. 1960).
The method described is a reversal of the abrasion test. Instead of a white sample, a dyed fabric with a medium-grain carborundum paper placed underneath is tested on the abrasion tester. Satisfactory dye penetration in the fabric or yarn appears not lighter but darker than the nonabraded surrounding part. With worsening of the dye penetration, the abraded place becomes increasingly lighter and, by removing the warp and weft threads, it can be easily ascertained whether the impaired dye penetration concerns the fabric or yarn or both. The abrasion results can be expressed in numbers of an empirical scale of five grades. (1577)

NEW OBSERVATIONS ON THE TIPPY DYEING OF WOOL. H. R. Hadfield and D. R. Lemin (Imp. Chem. Inds. Ltd). Dyer 125: 177 (Feb. 10, 1961).
The importance of the hydrophobic nature of the wool fiber surface and the balance of the hydrophobic/hydrophilic properties of the dye, or dye/cationic agent complex as they relate to the variation in dyeing properties of a single wool fiber along its length (skittery or tippy dyeing) are explained. (1578)

STUDIES ON PRINTING PASTES FOR THE BLOTCH METHOD. PARTS 1 AND 2. Y. Okaya and J. Sanada. J. Soc. Textile Cellulose Inds. Japan 16, No. 11: 968-974 (1960). In Japanese (English summary). Through BCIRA 41: 75 (1961).
The suitability of different thickeners was examined: wheat starch, sodium alginate, and schisa gum are suitable; no single thickener excels from every point of view; a mixture of wheat starch and sodium alginate is excellent. (1579)

SHORTENING THE STEAMING TIME IN VIGOUREUX PRINTING WITH CIBALAN DYES. H. Werdenberg (Ciba Ltd). Ciba Rev. 12, No. 141: 33-34 (Dec. 1960).
The use of benzyl alcohol in the print pastes produces quicker swelling of the wool slubbing during steaming, thus enabling steaming time to be reduced. (1580)

Drying, setting, conditioning D4

CARPET DRYING. L. L. Reeve (Seamloc Carpet Co.). Textile World 111: 66-67 (Mar. 1961).
The operation and advantages of an infrared oven for carpet drying installations are described. (1581)

CONTROL OF THE EXHAUST AIR HUMIDITY IN DRYERS FOR TEXTILE MATERIALS. PART 1. R. Burgholz. Textil-Praxis 15, No. 11: 1151-1157 (1960). In German. Through BCIRA 41: 241 (1961).
Experiences gained over a period of three years with exhaust-air controlling means are reported, with special reference to steam/air mixtures in the drying chamber and the conditions existing in the dryers used. (1582)

TEMPERATURE DISTRIBUTION DURING HEATING OF FABRIC IN THE NEAR AND MEDIUM INFRARED RANGE. H. Jakubowicz. Przeglad Wlok. 14, No. 9: 482-485 (1960). In Polish. Through BCIRA 41: 242 (1961).
Results obtained by heating fabrics with electric lamp and ceramic radiators are discussed, and the range of attainable temperatures and main features of the devices for the thermal treatment of textile materials are pointed out. (1583)

SOME FACTORS AFFECTING THE THERMOSETTING OF POLYAMIDE FIBERS. J. Janousek. Textil-Praxis 15, No. 10: 1059-1062 (1960). In German. Through BCIRA 40: 4705 (1960).
Quantitative measurements are made to establish relationships between the setting temperature, setting time, shrinking during setting, and residual shrinkage for Silon polyamide fiber with a view to finding optimum conditions for the production of a completely relaxed (stabilized) fiber. (1584)

SLASHER STABILIZATION OF DACRON FILAMENT YARN. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Jan. 1961. 4 p. Bull. D-131 (replaces Bull. D-104). Free.
A process for preshrinking warp sheets of Dacron filament yarn on the slasher is explained. (1585)

TESTING AND MEASUREMENT E

Fibers E1

IDENTIFICATION OF INDIVIDUAL NYLON, TERYLENE, AND ACRILAN FIBERS IN ADMIXTURE. B. Milligan and T. A. Pressley (C.S.I.R.O. Wool Research Labs.). (Letter to the editor). J. Textile Inst. 52: T47 (Jan. 1961). (1586)

SIMPLE DYEING TEST TO DISTINGUISH BETWEEN COURTELLE, ORLON TYPE 42, AND STANDARD ACRILAN. K. Meldrum (Courtaulds Ltd). (Letter to the editor). J. Soc. Dyers Colourists 77: 22 (Jan. 1961). (1587)

VISCOMETRIC DETERMINATION OF THE DEGREE OF POLYMERIZATION IN COTTON FIBERS. E. Käppler. Deut. Textiltech. 10, No. 11: 594-597 (1960). In German. Through BCIRA 41: 256 (1961).
The Staudinger Cuoxam method, the Marx Cuoxen method and the EWNN (iron/tartaric acid/sodium complex) method according to Valtasaari-Edelmann are compared as regards their practical applicability to DP-determinations on cotton. The last method is found to be distinctly superior and requires only a simple Ubbelohde viscometer in place of the relatively complicated Staudinger apparatus. The problem of purifying the raw cotton without causing degradation still remains to be solved. 22 refs. (1588)

METHOD FOR MEASURING THE DYNAMIC PROPERTIES OF THIN FILMS, POWDERS, AND FIBERS FROM POLYMERIC SUBSTANCES. H. Thurn. Kolloid Z. 173, No. 1: 72-73 (1960). In German. Through BCIRA 41: 252 (1961).
The low internal friction of quartz can be utilized for determining the mechanical and dynamic properties of thin plastic films deposited on quartz filaments (about 100μ thick and 10 cm long), fused to a massive quartz bracket and allowed to oscillate in vacuo to eliminate air friction. The whole instrument is immersed in a bath whose temperature can be varied. The half-life period of the oscillation amplitude (frequency ranging from 50-100 c/sec) t_H is inversely proportional to the loss modulus E". The device can also be used for measuring mechanical losses of plastic materials in powder or fiber form. (1589)

STATISTICAL EVALUATION OF LENGTH MEASUREMENTS ON STAPLE FIBERS. H. Dittmann and K. Geitel. Faserforsch. u. Textiltech. 11, No. 10: 487-495 (1960). In German. Through BCIRA 41: 251 (1961).
An analysis is made of the length distribution of staple fibers. Three distribution ranges are thereby found: normal or basic distribution of the staple length to which the cutting machine is adjusted; distribution of short fibers caused by breakage; distribution of long fibers produced by faults in the cutting process. Methods for separating these ranges are studied, and the values calculated are examined and compared with those of the total distribution and other characteristics. (1590)

VARIATIONS IN THE DRY WEIGHT OF WOOL. I. C. Watt, R. H. Kennett, and J. G. Downes (C.S.I.R.O. Wool Research Labs.). (Letter to the editor). J. Textile Inst. 52: T46-T47 (Jan. 1961).
On the basis of the experiments reported, there seems to be some justification for a test procedure involving wetting out of the samples prior to drying. 4 refs. (1591)

Yarns E2

YARN LOFT METER HELPS WITH HOSIERY QUALITY. C. N. H. Remick. (Letter to the editor). Textile Inds. 125: 136 (Mar. 1961).
A simple apparatus is described and illustrated. (1592)

MATERIALS FOR THE STRENGTHENING OF TIRES AND THEIR MAIN PROPERTIES. G. Quintelier. Ann. Sci. Textiles Belges No. 3: 7-29 (Sept. 1960). In French. Through BCIRA 41: 265 (1961).
A systematic description is given of tire manufacture, the properties (mechanical, dimensional stability, adhesiveness, fatigue) of rayon and nylon fabrics are examined, and various methods for testing tire cord (Mallory, Bartha, Firestone, Dunlop, and Goodrich tests) are described. (1593)

MELTING OF NYLON AND TERYLENE FIBERS IN SINGLE-THREAD STRENGTH TESTS ON SPUN YARNS. G. E. Chadwick and S. C. Simmens (Shirley Inst.). (Letter to the editor). J. Textile Inst. 52: T40-T45 (Jan. 1961). (1594)

TEX CONVERSION SYSTEM. B. L. Whittier (N. C. State Coll.). Textile World 111: 51-54 (Mar. 1961).
The tables accompanying this article list the equivalent numbers for a wide range of whole Tex units. Table 1 demonstrates the range of yarn numbers in all systems and the yards per pound for Tex units. Table 2 lists the yarn numbers of the denier in cotton, worsted, and woolen run systems that correspond with each Tex number from 1 to 100. Table 3 lists selected Tex numbers from 105 to 1,000. Reprints of the conversion tables are available from Textile World, 330 W. 42nd St., New York 36, N.Y. at 35¢ per copy. (1595)

Fabrics E3

DETERMINATION OF CREASING DURING WASHING OF WASH-AND-WEAR COTTON FABRICS. F. Nestelberger. Textil-Praxis 15, No. 11: 1161-1168 (1960). In German. Through BCIRA 41: 269 (1961).
Various methods for determining in the laboratory the creasing behavior of wash-and-wear fabrics during washing are reviewed, and it is found that this behavior cannot be predicted from the wet creasing angle. The Monsanto washing test with its various modifications was found to be the best method resembling practical conditions, but has the disadvantage that relatively large sample sections are required and the visual comparison with the creasing scale is liable to lead to subjective errors. The new method described determines the wash-creasing angle which, in resemblance of practical laundering and drying, combines the dry and wet creasing angles. The values can be correlated with the five-grade Monsanto creasing scale by means of an empirically determined curve. (1596)

FAST WAY TO FIGURE TUFTED CARPET WEIGHT. Textile World 111: 56-57 (Mar. 1961).
Nomographs for the calculation of face yarn weight for any given stitch count, tuft length, and yarn count. (1597)

MECHANICAL PROPERTIES OF TEXTILE FABRICS. PART 1. SHEARING. B. Behre (Swed. Inst. Textile Research). Textile Research J. 31: 87-93 (Feb. 1961).
Two alternative methods for measuring shear properties of fabrics are described. One method is recording and consists of an attachment to the Instron Tensile Tester. Complete load-deformation curves are obtained. The stress distribution in a fabric sample subjected to shear is analyzed, and the results used to construct a nonrecording shear tester for routine testing. 4 refs. (1598)

MECHANICAL PROPERTIES OF TEXTILE FABRICS. PART 2. BUCKLING. B. Dahlberg (Swed. Inst. Textile Research). Textile Research J. 31: 94-99 (Feb. 1961).
In this part, a method for measuring plate and shell buckling of fabrics is described. The same instrument can also be used to measure extension-compression in the plane of the fabric. The instrument consists of an attachment to the Instron Tensile Tester, and complete load-deformation curves are obtained. 3 refs. (1599)

STUDIES OF WRINKLE-RESISTANCE FINISHES FOR COTTON TEXTILES. PART 3. ACCELERATED STORAGE TEST FOR WASH-AND-WEAR COTTON FABRICS. R. L. Arceneaux, G. A. Gautreaux, R. M. Reinhardt, and J. D. Reid (So. Reg. Research Lab.). Am. Dyestuff Reptr. 50: 163-166 (Mar. 6, 1961).
An accelerated test procedure to determine the effect of storage on "wash-and-wear" cotton fabrics was developed. Fabrics finished with five N-methylol finishing agents, each with three different catalysts, were stored for 16 hr in sealed jars at 60° C and 100% rh. The effects produced were comparable to those of prolonged normal storage. Optimum test conditions were established by determining the effect of storage time and temperature on fabrics finished with dimethylol ethyleneurea and zinc nitrate catalyst. 7 refs. (1600)

TEXTILES: DETERMINATION OF THE WASHFASTNESS D, 95° C, 4 HOURS, OF DYEINGS AND PRINTS. Swiss Standards Assoc. Textil-Rundschau 15, No. 11: 606-607 (1960). In German. Through BCIRA 41: 267 (1961).
The Swiss specification SNV 95 8 15 defines the washfastness D, 95° C, 4 hr, as the resistance of the color of textiles to the action of soap/soda solutions near boiling point. The method of testing the dyed or printed material, apparatus and reagents, sample preparation, and test report are specified. (1601)

DYNAMIC FATIGUE TESTING ON RAYON FABRICS WITH VARIOUS WEAVES AND WEFT DENSITIES. W. Wegener and T. Winter. Z. ges. Textil-Ind. 60, No. 21: 930-933 (1960). In German. Through BCIRA 41: 124 (1961).
The dynamometric properties of cuprammonium rayon fabrics were examined under periodically repeated upper and lower limiting stresses and it was found that the elongation behavior of various fabrics from the same material can be predicted from the shrinkage of the fabric (in width), which shows a distinct relationship with the number of warp threads to the weave repeat and the number of picks per cm. The degree of elasticity decreases with the duration of stress and is inversely proportional to fabric shrinkage. (See also abstr. 1591/60 and 3226/60.) (1602)

Other E4

PROBLEM OF ILLUMINATION IN COLOR MATCHING. K. McLaren (Imp. Chem. Inds. Ltd). Dyer 125: 113 (Jan. 27, 1961). (1603)

STANDARD METHODS FOR THE DETERMINATION OF THE COLORFASTNESS OF TEXTILES. 2d ed. Soc. of Dyers & Colourists. Soc. of Dyers & Colourists, 19 Piccadilly, Bradford 1, Yorkshire, England. 1960. 108 p. $3.50. (1604)

REGISTERING POTENTIOMETRIC TITRATION DURING TEXTILE TESTING. R. Lamm. Deut. Textiltech. 10, No. 11: 586-588 (1960). In German. Through BCIRA 41: 254 (1961).
It is shown that the Heyrovsky polarograph can also be successfully used for recording potentiometric titration, e.g. acid-alkali, halogen-silver, fatty-acid, etc. titrations. A method for determining the carboxyl groups in polyacrylonitrile fibers is described, and it is shown that the COOH- content differs in fibers from various sources. Dry heat was found to reduce and treatment with ethylenediamine to increase the COOH- content considerably. (1605)

EXPERIMENTS FOR THE STANDARDIZATION OF TESTING METHODS FOR TEXTILE ASSISTANTS. PART 19. IMPROVED METHOD FOR DETERMINING THE WETTING POWER OF SURFACE ACTIVE SUBSTANCES. R. Schiffner. Faserforsch. u. Textiltech. 11, No. 10: 500-502 (1960). In German. Through BCIRA 41: 271 (1961).
A steel-wire holder for immersing the sample in the wetting agent solution is provided at the top with a round loop to be slipped on the little finger of the right hand to facilitate the use of the stop watch. (1606)

EXTRACTION OF DYES FROM ACRYLIC FIBERS. D. Blackburn and K. Meldrum (Courtaulds Ltd). (Letter to the editor). J. Soc. Dyers Colourists 77: 22 (Jan. 1961). (1607)

TEXTILES: DETERMINATION OF THE FASTNESS TO PERSPIRATION OF DYEINGS AND PRINTS. Swiss Standards Assoc. Textil-Rundschau 15, No. 11: 607-608 (1960). In German. Through BCIRA 41: 268 (1961).
The Swiss specification SNV 95 8 24 gives the definition of and method for testing the perspiration fastness of dyed and printed textiles, enumerates the equipment and reagents used, and describes the preparation of samples, their treatment, and data to be included in the test report. (1608)

MILL MANAGEMENT F

DATA PROCESSING TODAY: PROBLEMS, PRACTICES, AND PAYOFF. Textile World 111: 42-47 (Mar. 1961).
Report on how 10 representative textile concerns are using or are planning to use electronic data processing methods and equipment. (1609)

RAPID METHOD FOR FINDING INTEREST RATE OF RETURN. W. H. Greist, Jr., A. G. Bates, and J. B. Weaver (Atlas Powder Co.). Ind. Eng. Chem. 53: 52A-54A (Mar. 1961).
The nomographs in this article provide a simplified means for determining profitability of relatively small investments, and for preliminary screening of projects in the feasibility stages. (1610)

COTTON DOUBLING: REORGANIZATION AT SCOTTISH MILL. Textile Mfr. 87: 51-53 (Feb. 1961).
The economies and increased efficiency resulting from the replacement of ring and flyer doubling spindles with Scragg double twist spindles at the Stanley Cotton Mills are described. (1611)

MODERN TEXTILE MANAGEMENT. N. L. Enrick. Textile Inds. 125: 71-73 (Mar. 1961).
This first of a series of articles on the newer tools and techniques for textile mill management demonstrates the use of linear programming as a planning tool for sales-production coordination. 4 refs. (1612)

Industrial engineering F1

TEACHING SKILLS IN INDUSTRY. W. C. Crow (John Baynes Ltd). Textile Weekly 61 (1): 488-491 (Mar. 3, 1961).
The principles and methodology of specialized or systematic operator training are explained. (1613)

TRAINING OF MALE LABOR: TECHNIQUE FOR TEXTILE MILLS. R. Fletcher. Textile Weekly 61 (1): 195-198 (Jan. 27, 1961); 250, 252 (Feb. 3, 1961).
The method of specialized operative training advocated by the Cotton Board Productivity Center is described. The technique includes an element of competition for trainees by the use of time targets and quality assessment. (1614)

PLANNING FOR REEQUIPMENT. J. H. Kean (Joseph Newsome & Sons Ltd). Textile Recorder 78: 40-41, 57 (Feb. 1961).
The important factors to be considered before any major scheme of reorganization is undertaken are considered, and a schedule of individual points requiring attention and action in advance is provided. (1615)

UTILIZATION OF WASTE HEAT IN THE FINISHING INDUSTRY. K. I. Gorodov and B. M. Cherkinskii. Tekstil. Prom. 20, No. 3: 62-65 (1960). In Russian. Through BCIRA 41: 133 (1961).
The installation described is based on the use of contact heat-exchangers for utilizing the heat of the moist vapors discharged from gas dryers. The water, heated in these installations to 50° C at a rate of 30.5 cu m/hr, can be used for rinsing fabrics in bleaching plants. (1616)

HUMAN ELEMENT IN QUALITY CONTROL. D. M. Burger (Collins & Aikman Corp.). Knitter 24: 30-32, 52, 53 (Dec. 1960). (1617)

Plant and equipment F2

ELECTRICAL POWER--PURCHASED OR PRODUCED? Textile Bull. 87: 124, 126 (Mar. 1961).
Factors to be considered in purchasing versus production of power and in the choice of steam turbine generators for power production are discussed. (1618)

VERSATILE MATERIALS FOR TEXTILE MACHINERY AND ACCESSORIES. Permali Ltd and Hordern-Richmond Ltd. Textile Mfr. 87: 59-61 (Feb. 1961).
The properties and textile applications of Permali and Hydulignum (wood veneer resin laminates) and of Permaglass (glass fiber reinforced laminates) are described. (1619)

FIRE PREVENTION IN THE TEXTILE INDUSTRY. M. LeClaire. Melliand Textilber. 41, No. 10: 1298-1299 (1960). In German. Through BCIRA 41: 132 (1961).
The Florian smoke-signaling installation (Fritz Bihler Elektrogerätebau) is described, and its mechanism explained. (1620)

IMPORTANCE OF ODOR CONTROL IN TEXTILE PROCESSING. B. K. Tremaine (Rhodia, Inc.). Am. Dyestuff Reptr. 50: P175-P180 (Mar. 6, 1961).
Details are given covering sources of odor, odormetric measurement, selection of materials to meet both the chemical and physical requirements for stability, odor intensity, and unit threshold values. A section of this paper is also devoted to reodorization as practiced by many mills in overcoming the malodors associated with various resin finishes, and data covering such practice is enlarged upon. A section is also devoted to a report on data of public opinion concerning odor. 19 refs. (1621)

REFRIGERANTS AND REFRIGERATION EQUIPMENT IN AIR CONDITIONING PLANTS. H. Becker. Textil-Praxis (English ed.) No. 4: 155-163 (Dec. 1960). (1622)

SCIENCES G

Chemistry G1

CRYSTALS OF CELLULOSE. R. S. Manley (McGill Univ.). (Letter to the editor). Nature 189: 390-391 (Feb. 4, 1961).
Brief preliminary account of the growth of crystals of cellulose triacetate and their conversion to crystals of cellulose. (1623)

PROPERTIES OF TEXTILE MATERIALS. PART 12. CHEMICAL ATTACK OF TEXTILE FIBERS. PART 3. SYNTHETIC FIBERS. F. O. Howitt (Wool Inds. Research Assoc.). J. Textile Inst. 52: P14-P27 (Jan. 1961).
Following a discussion of the chemical nature of the polyamide, polyester, polyvinyl, polyvinylidene, polyethylene, and polytetrafluoroethylene fibers, the effect of chemical reagents on the following examples are described: nylon 6.6, Terylene, Vinyon, Dynel, Orlon, Courlene, and Teflon. (1624)

STRESS-STRAIN RELATIONS IN CROSS-LINKED POLYETHYLENE. I. L. Hopkins and R. B. Wentz. Am. Soc. of Mechanical Engineers, 29 West 39 St., New York 18, N.Y. 1960. 8 p. ASME paper no. 60-RP-14. $1.00.
Since polyethylene in the melt is essentially totally amorphous, while that at room temperature is preponderantly crystalline, it may be expected that material cross-linked chemically in the melt and that cross-linked by irradiation at room temperature will have different properties. In the work described here, the uniaxial and biaxial stress-strain properties of a linear and a branched polyethylene, both with various degrees of cross-linking, were investigated. 4 refs. (1625)

Physics G2

DIRECT-CURRENT CONDUCTIVITY OF TEXTILES, PROTEINS, AND OTHER POLYMERS. C. P. S. Taylor (Johnson Research Foundation). (Letter to the editor). Nature 189: 388-389 (Feb. 4, 1961).
It is suggested that conductivity phenomena in dry proteins and other dry polymers may be explained by an ionic rather than an electronic mechanism. 10 refs. (1626)

EFFECT OF HIGH-ENERGY RADIATION ON WOOL KERATIN AND POLYAMIDE AND POLYESTER FIBERS. H. Zahn. E. R. Fritze, H. Pfannmüller, and G. Satlow. Proc. U.N. Intern. Conf. Peaceful Uses At. Energy, 2nd, Geneva, 29: 233-237 (1958). Through Chem. Abstr. 54, No. 21: 23342e (1960). (1627)

RADIOACTIVE ISOTOPES AND THE TEXTILE INDUSTRY: BETA GAGES IN QUALITY CONTROL. H. E. Knobil (Marks & Spencer Ltd). Textile Weekly 61 (1): 364-365 (Feb. 17, 1961).
The use of beta gages to detect variation in weight per unit area in warp knit fabrics, to monitor resin and moisture content in resin finishing, and for detection and control of weft misalignment is described. (1628)

POTENTIAL BETA-GAGE APPLICATIONS IN THE TEXTILE INDUSTRY. O. Teszler, S. Ogawa, and H. A. Rutherford (N. C. State Coll.). Am. Dyestuff Reptr. 50: 45-49 (Jan. 23, 1961).
An attempt has been made to show the usefulness of a beta gage as a means for measuring weight (mass per unit area) nondestructively. Experiments were conducted using the beta gage for measurements of wet pick-up, extent of drying, fabric uniformity, and fabric abrasion or wear. There are many other operations in the textile industry where the instrument can conceivably be used, but no attempt was made to study the various applications exhaustively. Rather, emphasis was placed on the establishment of principles on the basis of which complete systems capable of measurement and automatic control can be developed. 28 refs. (1629)

Biology G3

BIOLOGICAL CHEMISTRY OF CELLULOSE. J. A. Gascoigne. J. Soc. Dyers Colourists 77: 53-57 (Feb. 1961).
The role of biological catalysts in the breakdown of celluloses and hemicelluloses is discussed. Whereas microorganisms readily degrade crystalline celluloses, the isolated enzymes only effect hydrolysis of the more accessible amorphous regions; the possibility exists of at least two types of enzyme being active in cellulose hydrolysis. Methods of preventing biological degradation are described, and particular attention is given to substitution and resinification. In the biosynthesis of cellulose, a nucleotide is a likely intermediate, and studies of cell wall removal from cellulose-synthesizing bacteria reveal that the cell wall plays an important part. Hopes are entertained of producing some modification of cellulose during its growth in the plant. 25 refs. (1630)

MISCELLANY H

SECOND CONFERENCE OF TEXTILE FINISHING GROUP OF TEXTILE INSTITUTE, BUXTON. Textile Mfr. 87: 73-75 (Feb. 1961).
Abstracts of the following papers are presented: Bleaching machinery, by D. E. P. Norton, p. 73-74; Bleaching, by F. V. Davis, p. 74; Use of solvents in bleaching, by N. F. Crowder, p. 74-75. (1631)

TEXTILE RESEARCH AND DEVELOPMENT. Textile World 111: 44-50 (Feb. 1961).
In response to the question of what problems most urgently need research and development in the textile industry, nine leading textile men chose: textile manufacturing, fiber understanding, fabric engineering, and quality upgrading. Their analysis of these areas are summarized. (1632)

PLASTICS DEVELOPMENTS: REVIEW OF THE LITERATURE FOR THE YEAR 1959-1960. G. B. Jackson, H. G. Dikeman, and K. R. Nickolls (Monsanto Chem. Co.). Mech. Eng. 83: 42-51 (Mar. 1961).
1959-1960 developments are reviewed under the headings: materials, properties and methods of test, processing, standards and education, and health and safety. 410 refs. (1633)

LANCASHIRE TEXTILE INDUSTRY: FUTURE PROSPECTS IN COTTON AND MANMADE FIBERS. J. A. McCawley. Textile Weekly 61 (1): 247-249 (Feb. 3, 1961). (1634)

TEN YEARS OF COTTON TEXTILES: 1950 TO 1960. W. R. Bell. Textile Bull. 87: 58-60 (Jan. 1961).
This annual survey of The Assoc. of Cotton Textile Merchants of New York reviews the changes in productivity and consumption of cotton textiles over the past 10 years. (1635)

TEXTILE OUTLOOK FOR THE SIXTIES. U.S. Business and Defense Services Admin., Wash. 1960. 54 p. Available from Superintendent of Documents, Washington 25, D.C. 35¢.
Contents: National economic prospects; Consumer expenditures: clothing and its competitors; Fiber consumption; Fiber-fabric relationships; Other factors influencing textile demand; Future prospects. 46 tables. 15 charts. (1636)

TEXTILE COMPONENTS AND COMBINATIONS. E. F. Schwarz (Mass. Inst. Technol.). Am. Textile Reptr. 75: 33-35, 117-119 (Feb. 16, 1961).
The basic factors to be considered in research on the integration of atoms and molecules into fibers, of fibers into yarns, of yarns into fabrics, and fabric combinations for specific applications are discussed as an example of the scientific approach to textile problems. (1637)

REVIEW OF TEXTILE PROGRESS. v. 11, 1959. Published jointly by The Textile Institute, Society of Dyers & Colourists, Butterworths, Manchester, Bradford, and London. 1960. 448 p. Available from Textile Book Publishers Inc., 250 Fifth Ave., New York 1, N.Y.
Contents: Production and properties of fibers: Cellulosic fibers, Protein fibers, Synthetic-polymer fibers; Conversion of fibers into finished yarns: Worsted yarn manufacture; Fabric production: Weaving, Knitting (including preparation), Felt and nonwoven fabrics; Chemicals for the textile industry: Coloring matters, Chemical compounds other than dyes; Chemical and other processes: Cellulose materials--Purification and bleaching, Dyeing, Finishing; Protein materials--Purification and bleaching, Dyeing, Finishing; Synthetic-polymer materials--Purification and bleaching, Dyeing, Finishing; Textile printing; Analysis, testing, grading and defects: Chemical testing, Physical testing and control; Laundering and drycleaning; Building and engineering. Extensive literature references. (1638)

TEXTILE COLLEGES TODAY. Modern Textiles Mag. 42: 32-36, 45 (Mar. 1961).
Factors responsible for present trend of increasing enrollment at U. S. textile colleges are outlined. (1639)

COTTON MILLS IN THE U.S.A.: SOME IMPRESSIONS FROM A VISIT. W. H. Morley. Textile Weekly 60 (2): 1442-1444, 1459 (Dec. 16, 1960); 1562-1564 (Dec. 30, 1960); 61(1): 21-26 (Jan. 6, 1961). (1640)

A SURVEY OF THE INDIAN COTTON MILL INDUSTRY. The Indian Cotton Mills' Fed., Bombay, India. 1960. 25 p. (1641)

TEXTILE RECORDER ANNUAL 1960/61: BOOK OF THE YEAR. Harlequin Press Ltd, Manchester, England, 1961. 180 p.
This review of 1959 in the British textile industry includes surveys of trade and industry, as well as a series of articles on technical progress in the mills, new machinery and equipment, raw materials position, and import and export statistics. (1642)

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

Natural fibers A1

LINT NOZZLE FOR COTTON GIN. A O'Neal (to Community Gin Co.). USP 2 973 559, Mar. 7, 1961. Aspirating nozzle arrangement for removing ginned cotton from gin roll. (1643)

Manmade fibers A2

ION-EXCHANGE FIBERS, FILMS, AND THE LIKE FROM SULFUR CONTAINING ALKOXYMETHYL MONOMERS. G. A. Richter, Jr., C. H. McBurney, and B. B. Kine (to Rohm & Haas Co.). USP 2 933 460, Apr. 19, 1960.
Fiber- and film-forming polymers made from monomers having ion-exchange properties copolymerized with monomers which can be cross-linked. The products are stable, cross-linked ion exchange resins fibrous or other form. The fibers or filaments can be processed on textile machinery alone or in combination with conventional textile fibers. Although the patent disclosure is general, the claims refer specifically to the use of 1/2 to 50 molecule percent of alkoxymethyl vinyl sulfide monomer (preferably methoxymethyl vinyl sulfide) as a comonomer in the polymer. After polymerization is complete, these monomer units can be oxidized to form disulfide cross-links, reacted in other ways to form various types of ion exchange groups, or reacted to form some cross-links and some ion exchange groups. (1644)

FIBERS, PELLICLES AND THE LIKE OF CROSS-LINKED ADDITION POLYMERS OF ALKOXYMETHYL VINYL SULFIDES. C. H. McBurney, G. A. Richter, Jr., and B. B. Kine (to Rohm & Haas Co.). USP 2 933 479, Apr. 19, 1960.
Articles of manufacture (fibers, films, etc.) made from copolymers containing 0.5-30 molecule percent alkoxymethyl vinyl sulfide monomer units can be treated with acid followed by a mild oxidizing agent to convert the sulfide groups to disulfide cross-links. Such cross-linked fibers or films exhibit greatly reduced shrinkage and greatly improved dimensional stability, when subjected to heat, as compared to fibers or films made from linear thermoplastic polymers. The cross-linking can be accomplished after formation of the fibers or film and even after formation of yarns, fabrics, or nonwoven structures. (1645)

DYE RECEPTIVE AND SHRINKABLE ACRYLIC FIBERS. G. W. Stanton and A. Armen (to Dow Chem. Co.). USP 2 970 884, Feb. 7, 1961. (1646)

FIBERS, YARNS, AND FILAMENTS OF WATER-INSOLUBLE DEXTRAN. M. J. Hiler (to Commonwealth Eng. Co.). USP 2 972 178, Feb. 21, 1961. (1647)

PROCESS FOR PRODUCING THREADS, FOILS, OR TUBES FROM AMYLOSE. D. Kudera (Germany). USP 2 973 243, Feb. 28, 1961. (1648)

PROCESS OF PRODUCING ALL-SKIN VISCOSE RAYON. J. P. Hollihan, Jr., J. A. Howsmon, and W. A. Sisson (to Am. Viscose Corp.). USP 2 971 816, Feb. 14, 1961. (1649)

ALL SKIN VISCOSE RAYON. W. A. Sisson and B. A. Thumm (to Am. Viscose Corp.). USP 2 971 817, Feb. 14, 1961.
The addition of small amounts of alkylene oxide adducts of triethanolamine in the spinning bath results in the production of all-skin filaments. (1650)

DYE RECEPTIVE ACRYLIC FIBERS CONTAINING ACRYLONITRILE N-VINYLPYRROLIDONE COPOLYMER. G. E. Ham and A. B. Craig (to Chemstrand Corp.). USP 2 971 937, Feb. 14, 1961. (1651)

YARN PRODUCTION B

METHOD AND APPARATUS FOR CONTINUOUS CRIMPING. NV Onderzoekingsinst. Research. BP 847 453, Sept. 7, 1960. (Addition to BP 790 163.) Through BCIRA 41: 48 (1961).
A heating tube is made of stainless steel, internal diameter less than 0.8 mm and external diameter 2.0-2.2 mm, forming part of an electric circuit. (See abstr. 2701/58.) (1652)

FALSE TWIST CRIMPING. R. A. A. Willens (to Brit. Celanese Ltd). BP 848 798, Sept. 21, 1960. Through BCIRA 41: 394 (1961).
Continuous-filament yarn is drawn from a supply package by a faster roller system, and the stretched yarn is run through a false twist device followed by a setting zone, and is collected at a lower speed than the rate of feed into the false-twist zone. Thus, the natural tendency of the yarn to contract after stretching is used to impose a controllable degree of tension rendering setting more effective and permanent. (1653)

HEAT TREATMENT DEVICE FOR THERMOPLASTIC YARNS. E. P. R. Scragg (to E. Scragg & Sons Ltd). BP 849 607, Sept. 28, 1960. Through BCIRA 41: 393 (1961).
The yarn (e.g. nylon) passes vertically upwards through an elongated passage that narrows towards the center and then expands again, giving a Venturi type of air flow that prevents condensation of fumes. The passage is bounded on one side by a metal plate, heated electrically or by hot oil flowing through a channel from top to bottom. The plate has a convex surface with grooves for guiding the yarn. (1654)

CAUSTIC TREATMENT OF COTTON FIBERS. J. M. Flack, B. F. Pulsifer, and J. D. Whatley (to Indian Head Mills). USP 2 972 220, Feb. 21, 1961.
The quality of cotton is improved and the loss in lint waste during processing is reduced by treating loose cotton fibers, under tension to prevent shrinkage and curling, with a caustic swelling agent. The short and immature fibers do not need to be removed, thus allowing lower quality staple to be used. (1655)

AEROSOLIZATION PROCESS. J. B. Jones and J. L. Straughn (to Aeroprojects, Inc.). USP 2 944 029, July 5, 1960.
Method for forming aerosols of a relatively narrow particle size range from bulk liquids having a viscosity which makes them unsuitable for aerosolization at low temperatures. (1656)

METHOD AND APPARATUS FOR DEPOSITING TOW. J. T. Burns (to E. I. du Pont de Nemours & Co.). USP 2 971 243, Feb. 14, 1961.
Method of delivering a rapidly moving tow so that it is deposited in a receptacle in a relaxed state without filament entanglement. (1657)

YARN PROCESSING APPARATUS. W. F. Paulsen (to E. I. du Pont de Nemours & Co.). USP 2 971 683, Feb. 14, 1961.
For delivery of rapidly traveling strands into a receptacle in helical configuration. (1658)

REMOVAL OF STATIC ELECTRICITY IN YARN SPINNING. A. Nau-Touron (to Centre Technique Industriel dit Inst. Textile de France). USP 2 972 086, Feb. 14, 1961.
Apparatus for eliminating static from dielectric materials by contacting them with a stream of gas previously exposed to a radioactive substance. (1659)

DEVICE FOR GATHERING GLASS FIBERS INTO A CONTINUOUS STRAND. G. A. Walbolt (to L. O. F. Glass Fibers Co.). USP 2 972 370, Feb. 21, 1961. (1660)

MULTIPLE CRIMPING PROCESS. R. K. Stanley and I. Schwartz. USP 2 972 798, Feb. 28, 1961.
The undesirable residual torque inherent in helical crimped filaments is eliminated by superimposing a haphazard crimp on helically crimped filaments. (1661)

TRAVELING CLEANER FOR TEXTILE ROOMS. G. W. Allred (to Bahnson Co.). USP 2 973 543, Mar. 7, 1961.
Device mounted on a trackway over machines to blow off any lint or foreign matter from the machines, walls, or ceilings. (1662)

Opening, picking, fiber preparation B1

COTTON FIBER CLEANER. R. C. Young and R. A. Rusca (to Dodd Investments Ltd). BP 849 548, Sept. 28, 1960. Through BCIRA 41: 382 (1961).
In an opener in which the fiber is fed by a horizontal conveyor belt to a series of opener cylinders rising like a wall from the belt and curving back to it, each cylinder is fitted with the extra cleaning device. The essential feature is a combing cylinder, with rearwardly inclined teeth, that rotates close to the opener cylinder and in the same direction but at a lower surface speed. (1663)

Drawing and roving B3

DRAFTING ROLLS. J. J. Rieter & Cie AG. BP 848 974, Sept. 21, 1960. Through BCIRA 41: 386 (1961).
The roller rotates in a cap bar and has a radial projection from an end portion which fits into the bore of an elastic nylon covering that can easily be slipped over or stripped off the end portion. (1664)

TOP DRAFTING ROLL SUPPORT. J. J. Rieter & Cie AG. BP 847 741, Sept. 14, 1960. Through BCIRA 41: 193 (1961).
Lever and spring device for holding top drafting rolls in place when it is required to lift up the guide and loading arms on which they are mounted. (1665)

APRON DRAFTING MECHANISM. SKF Kugellagerfabriken GmbH. BP 848 747, Sept. 21, 1960. Through BCIRA 41: 389 (1961).
The top apron is tensioned by means of a flat spring, part of which is as wide as the apron and bears against it at a position remote from the drafting field. Thus the distance between the axis of the top roller and the front guiding edge of the apron is kept constant, variations in the length of the apron being compensated for. (1666)

THREE-LINE DRAFTING SYSTEM WITH TWO MIDDLE DRAFTING ZONES. Howa Kogyo KK. BP 849 975, Sept. 28, 1960. Summary in BCIRA 41: 388 (1961). (1667)

HYDRAULIC WEIGHTING DEVICE FOR TOP DRAFTING ROLLS. E. Eggenschwyler (to J. J. Rieter & Co. Ltd). USP 2 971 226, Feb. 14, 1961.
The weighting load is transmitted from an internally pressurized hollow oblong body to the top rolls by means of shoes resting on the pressurized body and connected to the top rolls by individual pressure transmitting elements. (1668)

STOP MOTION FOR ROVING FRAME. S. J. Adams. USP 2 971 320, Feb. 14, 1961.
Control system which stops the frame on rupture of a roving and simultaneously stops the operation of the lint remover. (1669)

Spinning, winding, twisting B4

RING SPINNING, DOUBLING, AND TWISTING MACHINES. W. Barrett (to Prince-Smith & Stells Ltd). BP 846 327, Aug. 31, 1960. Through BCIRA 41: 45 (1961).
The invention relates to automatic underwinding for producing doffing coils of yarn at the base of a spindle prior to doffing the full package. An auxiliary reversible motor is used to move the ring plate down to the underwinding position when a predetermined yardage has been wound and return it when the doffing coils are wound. Switching means and a solenoid are used for stopping and starting the main and auxiliary motors and the builder motion as required. (1670)

TOP DRAFTING ROLL SUPPORT AND WEIGHTING MECHANISM. SKF Kugellagerfabriken GmbH. BP 846 538, Aug. 31, 1960. Through BCIRA 41: 43 (1961).
The arm for carrying and weighting the top rollers is mounted on a stationary part of the mechanism for swinging upwards when it is required to relieve the rollers. A pivoted latch with detent members is provided in the stationary part to lock the arm in its working position. The latch cooperates with a spring that urges the detent members against a latch hook as the carrier arm is swung down. (1671)

SUSPENSION TYPE BOBBIN HOLDER. T. L. Kucmerosky (to Bendix Corp.). USP 2 973 920, Mar. 7, 1961.
Bar brake mechanism for controlling the rotation of a pendulous antifriction bobbin holder. (1672)

TWISTING SPINDLES. F. Scragg (to E. Scragg & Sons Ltd). BP 847 004, Sept. 7, 1960. Through BCIRA 41: 47 (1561).
In a double-twist spindle, a system of bevel gears, all of the same radius and number of teeth, is claimed for maintaining the package carrier stationary during the revolution of the spindle. (1673)

DRAFTING MECHANISM. SKF Kugellagerfabriken GmbH. BP 847 300, Sept. 7, 1960. (Addition to BP 820 239.) Through BCIRA 41: 44 (1961).
In the double-apron mechanism of the parent invention the rolls in the middle pair are offset in relation to one another in the direction of draft to form a pair of apron guide rollers arranged so that weighting of the middle top roller merely creates a slip drafting nip between the two aprons between the feed and delivery rolls. (See abstr. 710/60.) (1674)

SPINNING AND TWISTING SPINDLES. A. Schüssler, G. Uhlemann, and E. Schäfer (to VEB Spinnereimaschinenbau). BP 847 326, Sept. 7, 1960. Through BCIRA 41: 46 (1961).
The spindle is mounted in a resilient support, of rectangular cross-section, embedded in a rigid ring the base surface of which is inclined conically downwards towards the outer periphery while the side facing the spindle nut extends perpendicularly to the spindle axis. The ring has an upturned flange to prevent spread of the resilient support under pressure. (1675)

ROVING DRAFTING MECHANISM. J. J. Rieter & Cie AG. BP 847 716, Sept. 14, 1960. Through BCIRA 41: 194 (1961).
Stop motion for use with a drafting device that incorporates a condensing funnel for feeding roving to the nip of a pair of rollers. (1676)

INCORRECT-TWIST DETECTOR IN RING SPINNING, TWISTING, AND WINDING MACHINES. Z. Hawrot (to Bruck & Engelsmann Ltd). BP 849 459, Sept. 28, 1960. Through BCIRA 41: 391 (1961).
An adjustable deflector is mounted on the machine in the path of the yarn (running on or off) at a tangent to a circle drawn about the axis of the yarn carrier, so that it only prevents ballooning of the yarn in the incorrect direction. A comb is used to catch and hold yarn thrown on to the deflector. (1677)

BALLOON CONTROL FOR RING SPINNING AND TWISTING FRAMES. Allgauer Maschinenbau GmbH. BP 849 765, Sept. 28, 1960. Through BCIRA 41: 390 (1961).
Ballooning is restricted by means of a pair of rings that are upwardly pivotable through roughly 90° about pivots carried by sliding members on vertical guide rods fixed to the spinning ring rail or ring lattice carrier. The slides are operated (for adjusting the levels of the constricting rings) by a chain drive for each. (1678)

BALLOON CONTROL FOR PLYING APPARATUS. A. W. Vibber. USP Reissue 24 945, Mar. 7, 1961. Original No. 2 869 313, Jan. 20, 1959.
See abstr. 1040/59. (1679)

TOP DRAFTING ROLL FOR SPINNING MACHINES. W. Sommer and F. Schmidt (to SKF Kugellagerfabriken GmbH). USP 2 972 787, Feb. 28, 1961.
Means for preventing fibers from reaching and collecting in the antifriction bearings associated with each roll. (1680)

SPINNING MACHINES. P. R. C. Grangié and L. E. Bianco (France). USP 2 942 404, June 28, 1960.
A spinning machine in which the yarn so forms a controllable balloon that a mechanism can be housed in the space limited by the balloon, the mechanism including a part which can rotate about the central axis of the balloon. Two yarns could be spun at once and the device can have two flyer members of the same radius. (1681)

NEW DESIGN CAGE IN DOUBLE APRON DRAFTING MECHANISM FOR SPINNING MACHINES. F. Stahlecker (to Wurtt. Spindelfabrik GmbH). USP 2 964 805, Dec. 20, 1960. (1682)

SPINNING FRAME DRAFTING ROLL DRIVE. W. H. Tabor (to Dixon Corp.). USP 2 972 786, Feb. 28, 1961. (1683)

FALSE TWIST DRAFTING ASSEMBLY FOR SPINNING FRAMES. J. F. Lemieux, Jr. (to L, M and L Corp.). USP 2 972 853, Feb. 28, 1961.
A spring loaded, unitary, vertical movable, false twist head is mounted between the upper and lower drafting rolls to impart a false twist for added strength to the strand during drafting. (1684)

YARN PLYING APPARATUS. E. Hamel (to Hamel Projektierungs- und Verwaltungs-AG). USP 2 972 856, Feb. 28, 1961.
Ply yarns are produced in two stages by first advancing the filaments at a relatively high speed while imparting to them a low twist and then imparting a high finishing twist while advancing the filaments at a low speed. (1685)

CONE ADAPTER FOR TWISTING SPINDLES. A. D. Harmon (to Deering Milliken Research Corp.). USP 2 973 161, Feb. 28, 1961. (1686)

BEARING UNITS FOR SPINNING AND TWISTING SPINDLES. E. Rogner (to SKF Kugellagerfabriken GmbH). USP 2 973 229, Feb. 28, 1961. (1687)

Yarns B5

APPARATUS FOR PRODUCING RAYON SLUB YARN. Toyo Rayon KK. BP 847 248, Sept. 7, 1960. Through BCIRA 41: 17 (1961).
A cam-operated piston and cylinder device is connected with the delivery channel between the supply means and the extrusion device so as to cause variations in pressure and consequent variations in filament denier. (1688)

SHAPED STRUCTURES OF AMYLOSE. Kalle & Co. AG. BP 847 431, Sept. 7, 1960. Through BCIRA 41: 20 (1961).
A suggested use is the production of scaffolding threads that may be dissolved out of a fabric by means of an enzyme. (1689)

ROPE CONSTRUCTION. D. Himmelfarb and W. J. Kaes. USP 2 971 321, Feb. 14, 1961.
The rope is formed by twisting at least three yarns into a cord in a direction opposite to the twist of the yarn filaments, twisting the cords into a strand and then twisting the latter in the opposite direction into a rope. The resultant rope can absorb the effects of stresses and strains in use without deformation of the strands and development of kinks or bulges. (1690)

SUPPORT FOR YARN CHEESES DURING WET TREATMENT AND DRYING. G. Tigges (Germany). BP 847 668, Sept. 14, 1960. Summary in BCIRA 41: 208 (1961). (1691)

BULKED NYLON YARN. G. Loasby (to Brit. Nylon Spinners Ltd). BP 848 037, Sept. 14, 1960. Through BCIRA 41: 196 (1961).
Multifilament yarn, e.g. of nylon, is passed continuously through an air jet (to induce a random looped condition) followed by a heated device for crimping, e.g. a false twist tube, a stuffer-box, or a sharp edge. (1692)

MANUFACTURE OF VOLUMINOUS YARNS. D. W. Groombridge, S. G. Hawtin, and J. Downing (to Brit. Celanese Ltd). BP 848 080, Sept. 14, 1960. (Addition to BP 792 805). Through BCIRA 41: 174 (1961).
A solution of cellulose acetate in acetone is extruded into hot air through a jet that has an inner circle of orifices differing in length and diameter from those in an outer circle. The rate of extrusion is so arranged that the yarn produced has a core of straight supporting filaments surrounded by crinkled filaments. (See abstr. 3491/58.) (1693)

BONDED MULTIFILAMENT YARN. Toyo Rayon KK. BP 848 119, Sept. 14, 1960. Through BCIRA 41: 195 (1961).
Multifilament yarn of the polyamide or polyester type is run through water containing a wetting agent and then over a hot plate (at about 150°C) to a ring twister under tension. The filaments stick together without actually coalescing. (1694)

MANUFACTURE OF HIGH BULK FILAMENTS FROM COPOLYMERS OF ACRYLONITRILE AND VINYLIDENE CHLORIDE. J. W. Grebby, S. G. Hawtin, and J. Downing (to Brit. Celanese Ltd). BP 848 402, Sept. 14, 1960. Summary in BCIRA 41: 175 (1961). (1695)

DUAL TORQUE YARN FOR STRETCH FABRICS. M. H. Comer, D. W. Terrell, and C. A. Miles (to Textile Licensing Co.). USP 2 968 909, Jan. 24, 1961.
Yarns with alternating sections of opposite torque are produced by false twisting, heat setting alternate sections of predetermined length, and untwisting, so that the unset portions of the yarn are untwisted to substantially zero torque and the set portions are reverse twisted. (1696)

PACKAGING MACHINERY FOR TEXTILE RIBBONS. E. Föller and H. Matlok (to Vereinigte Glanzstoff Fabriken AG). USP 2 971 244, Feb. 14, 1961.
Machine for packing fibers or filaments in the form of a ribbon into a parallelepiped receptacle by distributing the ribbons in tightly packed, horizontal layers to prevent tangling during shipment and further handling. (1697)

SPLICING NYLON TIRE CORD. G. A. Spencer (to Firestone Tire & Rubber Co.). USP 2 971 319, Feb. 14, 1961.
Machine and method for wrapping two cord ends with a third cord to form a small diameter, non-slip, high strength splice. (1698)

COMPOSITE STRETCH YARN. R. Bouvet (to Am. Viscose Corp.). USP 2 971 322, Feb. 14, 1961.
The yarn consists of a core of crimped filaments and a covering of nonstretch fibers. (1699)

METALLIC YARNS. W. G. Scharf (to Metal Film Co.). USP 2 974 055, Mar. 7, 1961.
The yarns are produced by slitting transparent, flexible plastic webs which have been coated first with metal and then with a clear plastic which is related structurally to and has an affinity for the web. The thread produced is inherently incapable of delamination, is highly flexible, and has greater tensile strength. (1700)

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

BOBBIN CONTAINERS FOR AUTOMATIC WINDING MACHINES. C. G. Rosenkranz, H. Halstenbach, and A. Plutte (Germany). BP 847 002, Sept. 7, 1960. Through BCIRA 41: 59 (1961).
The container is a large bin capable of holding bobbins in orderly array, both side by side and above one another. The bottom is divided into a series of pairs of converging parts acting like funnels, each pair leading to a guide shaft that takes the bobbins in single columns. One of the converging parts is fixed and the other is mounted on a spindle about which it can be swung inwards by an external lever. (1701)

SIZING AGENTS. E. Mahler and M. Gattefosse (France). BP 847 517, Sept. 7, 1960. Through BCIRA 41: 61 (1961).
Triglyceride fats and oils are heated with polyethylene glycols in the presence of a trans-esterification catalyst to give mixed esters with surface-active properties. (1702)

SIZE APPLICATION CONTROL INSTALLATION. Leesona Holt Ltd. BP 847 615, Sept. 14, 1960. Through BCIRA 41: 209 (1961).
Standard size mixing (in a steeping beck) and hot water are delivered in predetermined weight ratio to a boiling beck, and the mixture is supplied under the operator's control to the sow box, from which surplus size is pumped back to the mixing beck. (1703)

SIZING AGENT CONSISTING OF HYDROLYZED VINYL ACETATE/ACRYLIC ESTER COPOLYMERS. W. Colwill and S. M. Todd (to Imp. Chem. Inds. Ltd). BP 848 348, Sept. 14, 1960. Summary in BCIRA 41: 210 (1961). (1704)

YARN CLAMPING DEVICES FOR INITIATING WINDING ON AUTOMATIC BOBBIN- AND PIRN-WINDING MACHINES. Muschamp Textile Machy. Ltd. BP 848 697, Sept. 21, 1960. Summary in BCIRA 41: 410 (1961). (1705)

STRIPPING DEVICE FOR WEFT BOBBINS. K. Moos (Switzerland). BP 848 913, Sept. 21, 1960. Through BCIRA 41: 416 (1961).
The bobbins are conveyed by their heads with their shanks pointing downwards and rotated in the direction that leads to unwinding of the residual thread. They pass a rotating disc of foam rubber that moves up and down over the shank in front of a pair of tapered rollers, one having a thread-catching slot, to which the loosened end is blown by a stream of compressed air. (1706)

PRE-SET YARN METERING DEVICE. A. de Negri (Italy). BP 849 540, Sept. 28, 1960. Summary in BCIRA 41: 415 (1961). (1707)

AUTOMATIC BOBBIN WINDING MACHINE. W. Reiners (Germany). BP 849 665, Sept. 28, 1960. (Addition to BP 830 978.) Through BCIRA 41: 412 (1961).
In a device for gripping the cut leading end of thread on a new bobbin and releasing it before the bobbin has got up speed, the action is provided by a resilient hook that, under centrifugal force, is deformed and releases the end of thread. The end is then deflected into the path of the oncoming thread and wound into the first few turns on the bobbin. (1708)

MULTI-HEAD WINDING FRAMES. Barmer Maschinenfabrik AG. BP 849 779, Sept. 28, 1960. Through BCIRA 41: 413 (1961).
To save space, the winding heads are arranged in a number of rows along the frame, all the winding positions in any one row facing one way and opposite to that of the adjacent rows. (1709)

HIGH-SPEED WINDING MACHINES. E. Brierley (to Leesona Holt Ltd). BP 849 971, Sept. 28, 1960. Through BCIRA 41: 411 (1961).
A stop-motion for a machine winding from hanks acts by lifting the package clear of the driving roller if entanglement occurs in the hank. (1710)

SPINDLE STOP. H. Collins. USP 2 972 219, Feb. 21, 1961.
Electromagnetic device which functions automatically, when thread breakage occurs in winding, to disengage the spindle from the motor drive without stopping the motor. (1711)

WINDING MACHINES. E. Brierley (to Leesona Holt Ltd). USP 2 972 450, Feb. 21, 1961.
Means for moving a yarn package holder away from the driving shaft of a winding machine as the package builds up without applying undesirable pressure on the surface of the package. The package (mounted on a pivot or slide) is in rolling contact with a lightly loaded feeler wheel or roller that transmits motion to a toothed rack through a friction wheel and reduction gear. The rack moves the package as it builds up and progressively decreases the speeds of the spindle and traverse. (1712)

CROSS-WINDING APPARATUS. L. P. Block (to E. I. du Pont de Nemours & Co.). USP 2 972 796, Feb. 28, 1961.
Uniform cross-wound packages from multiple yarn ends are produced by winding the yarns onto a rotating support while progressively condensing half the yarns in a warp sheet and simultaneously increasing the distance between the yarns in the other half of the warp sheet as it nears the end of the support. (1713)

YARN END HOLDER AND CUTTER FOR LAYING-ON THREAD TO FLANGED SPOOLS OR BOBBINS. A. Kresslein (to Vereinigte Glanzstoff Fabriken AG). USP 2 973 126, Feb. 28, 1961.
The combined holder and cutter is mounted in a recess provided for this purpose in the flanged part of the spool or bobbin. (1714)

SPINDLE GUIDE FOR YARN WINDING MACHINE. L. V. M. Rochegude (to Ateliers Roannais de Constructions Textiles). USP 2 973 155, Feb. 28, 1961.
Guide for the ends of yarn supporting spindles in machines in which the yarn packages are frictionally driven by rotating drums on which they rest. (1715)

MOUNTING FRAME FOR WARP TYING MACHINE. A. Altenweger (to Zellweger Ltd). USP 2 972 797, Feb. 28, 1961. (1716)

DEVICE FOR MONITORING THE CONTINUITY OF YARNS. J. V. Weinberger (Canada). USP 2 973 617, Mar. 7, 1961.
Device for detecting and indicating a break or discontinuity of a yarn or roving, particularly in winding or twisting. (1717)

Weaving C2

SHUTTLELESS LOOMS. D. W. Shimwell (to Weaving Research & Textile Comm. Agents Ltd). BP 844 875, Aug. 17, 1960. Through BCIRA 41: 63 (1961).
The loom has three spear heads for drawing weft from stationary packages and inserting it in the warp shed. The spear heads follow each other, the outer two laying discontinuous lengths of weft and the middle one a continuous weft. The warp is progressively shedded as the spear heads move through. (1718)

LOOSE-REED LOOM. Maschinenfabrik Rüti AG. BP 846 714, Aug. 31, 1960. Through BCIRA 41: 64 (1961).
One reed baulk is locked in the operative position of the reed by means of pivoted brackets and associated cams. If a shuttle is trapped, the pressure applied to the reed causes the brackets to swing clear of the baulk. (1719)

PHOTOELECTRIC WEFT FEELER. Gebrüder Loepfe AG. BP 848 008, Sept. 14, 1960. Summary in BCIRA 41: 211 (1961). (1720)

LOOM SHEDDING DEVICE. Imatex Industria Macchine Tessili SrL. BP 848 693, Sept. 21, 1960. Through BCIRA 41: 417 (1961).
A shedding device, particularly for the heddles of a tape loom, comprises a set of cam-profiled blocks hinged together into a continuous band that is driven from the loom shaft and cooperates with the heddle drive. (1721)

CURVED NEEDLE DRIVE IN TAPE LOOMS. Imatex Industria Macchine Tessili SrL. BP 848 694, Sept. 21, 1960. Through BCIRA 41: 423 (1961).
The curved needle for taking weft from a fixed bobbin and inserting it into the warp shed is mounted on a shaft to which a crank is attached for driving by a pivoted lever, a small oscillation of the lever effecting a relatively large swing of the needle. (1722)

SELVAGE FORMATION IN TAPE LOOMS. Imatex Industria Macchine Tessili SrL. BP 848 695, Sept. 21, 1960. Through BCIRA 41: 424 (1961).
Mechanism for forming a selvage in weaving tapes by passing a binding thread (from a bobbin) through the loop of the weft as created by the curved needles that are used for weft insertion. (1723)

SHUTTLES. B. Schmeing, K. Schmeing, and F. Enning. BP 848 934, Sept. 21, 1960. Through BCIRA 41: 419 (1961).
The lower end of the bobbin is held in the shuttle by means of a C-shaped clamp made of a resilient, non-metallic substance (e.g. Vulkollan) that fits in a milled enlargement of the hollow part of the shuttle with its open ends upwards. The clamp may be reinforced by a steel spring of the same form. (1724)

SELVAGE FORMATION ON SHUTTLELESS LOOMS. R. Dewas (Luxembourg). BP 848 730, Sept. 21, 1960. Through BCIRA 41: 421 (1961).
An auxiliary thread is inserted in loops into the shed between the ends of the cut wefts by means of a circularly curved needle mounted on a spindle at the edge of the shed. The spindle imparts a rocking motion to the needle and the loop formed is temporarily retained in the selvage by the point of a plunger pivoted so as to pass through the warp threads. The needle and plunger are both withdrawn as the beatup mechanism comes into play. (1725)

DROP BOX LOOM LAY. Schonherr GmbH. BP 848 738, Sept. 21, 1960. Summary in BCIRA 41: 422 (1961). (1726)

NARROW FABRICS. W. C. Arnold (to Bonas Bros. Ltd). BP 848 822, Sept. 21, 1960. Through BCIRA 41: 426 (1961).
A needle-loom fabric having a bifurcated or multi-ply edge (e.g. zipper tapes) is woven from at least two weft packages in such a way that all the weft loops are common to the body of the fabric but each loop is individual to one ply only of the edge. (1727)

WEFT NEEDLE TAPE LOOM. H. G. Bonas and W. C. Arnold (to Bonas Bros. Ltd). BP 848 979, Sept. 21, 1960. Through BCIRA 41: 425 (1961).
A needle loom having at least one pair of needles for inserting the weft is adapted to produce tape (for slide fasteners) having a split or multi-ply edge. (1728)

LOOM BOBBIN CHANGING MECHANISM. G. Fischer AG. BP 849 754, Sept. 28, 1960. Through BCIRA 41: 420 (1961).
Bobbin-changer with drumlike bobbin magazine that is driven stepwise by means of pawls assigned to the various types (e.g. colors) of bobbin to be used on the loom. The pawls, differing in length, are selected by cam and solenoid devices. (1729)

WEFT INSERTION DEVICE. Sulzer Frêres SA. BP 849 919, Sept. 28, 1960. Through BCIRA 41: 418 (1961).
A loom of the stationary-weft-supply type is fitted with means for drawing back the weft-inserting device a limited distance to a predetermined position after it has passed through the shed, and for exploring the exit side of the shed for the exit end of the weft after the start of the retraction of the weft inserter. (1730)

WEFT MECHANISM FOR SHUTTLELESS LOOMS. G. W. Dunham. USP 2 971 540, Feb. 14, 1961.
All of the operations required for the placing of weft threads are controlled by two mechanisms mounted on each end of a laybeam and are synchronized with respect to the reciprocating movements of the laybeam. (1731)

SHUTTLE SPUR STRUCTURE. J. R. Evans (to Draper Corp.). USP 2 971 541, Feb. 14, 1961. (1732)

SHUTTLE THREADING BLOCK. A. Villani and J. W. Rankin, Jr. (to Draper Corp.). USP 2 971 542, Feb. 14, 1961. (1733)

AUTOMATIC SYSTEM FOR PRODUCING JACQUARD CARDS. J. O. Hetherington and J. S. Hetherington. USP 2 971 692, Feb. 14, 1961. (1734)

PICKER STICK CHECK. F. G. Reuter and H. Nagenborg, Jr. (to Mobay Chem. Co.). USP 2 972 360, Feb. 21, 1961.
The check consists of an elastic cushion supported on a rigid holder. The cushion consists of a layer of foamed polyurethane between two layers of homogeneous polyurethane rubber. (1735)

ROLLER TEMPLE FOR LOOMS. E. Pfarrwaller and H. Demuth (to Sulzer Freres SA). USP 2 972 361, Feb. 21, 1961.
In the roller temple described a sleeve is interposed between the shaft and the needle roll carriers and the latter are mounted on the sleeve so that they can be pushed on and off as a unit as is required when the fabric type is changed. (1736)

WEFT END CUTTING AND HOLDING DEVICE. C. M. Bartlett (to H. F. Livermore Corp.). USP 2 973 017, Feb. 28, 1961.
The weft yarn holding device consists of a pincers-type clamp, one jaw of which is pivoted on and carried by the moving cutting blade. (1737)

MODIFIED AXMINSTER LOOM. S. R. Mays and M. W. Worth (to James Lees & Sons Co.). USP 2 973 784, Mar. 7, 1961.
For weaving a 2-shot fabric in which some of the pile yarns form high loops and others ground pile in the same transverse row. (1738)

LOOM FOR WEAVING PILE FABRICS. O. J. Park and H. W. Penman (to Magee Carpet Co.). USP 2 973 785, Mar. 7, 1961.
Solenoid operated latches for selectively connecting a reciprocating needle bar to the gage wires to position them at different points along the path of movement of the pile yarns to form loops of various heights. (1739)

LOOM HARNESS. J. J. Kaufmann (to Steel Heddle Mfg. Co.). USP 2 973 786, Mar. 7, 1961.
Harness construction to permit alignment on a single axis of the key rod apertures of the heddles so as to facilitate the entering of warp by means of drawing-in machines. (1740)

Knitting C3

NONWOVEN FABRICS. P. A. Müller (Switzerland). BP 848 976, Sept. 21, 1960. Through BCIRA 41: 383 (1961).
A very thin continuous web for hygienic, medical, and cosmetic purposes and for coating paper contains at least 5-50% of thermoplastic fibers (e.g. cellulose acetate, the rest being cotton) embossed under heat to produce a pattern of reinforcing points where crossing fibers stick together. (1741)

STOCKING PACKAGING MACHINE FOR PRODUCING PACKAGES OF THE ONE BOARD TYPE. J. C. Berry and G. W. Newton. USP 2 971 302, Feb. 14, 1961. (1742)

HIGH PILE KNITTING MACHINE. J. H. Hill (to Wildman Jacquard Co.). USP 2 971 357, Feb. 14, 1961.
Mechanism for feeding raw stock or staple fibers to the cards of a knitting machine in a continuous and uniform manner. (1743)

NYLON HOSE MARKING DEVICE. D. Starkie (to English Rose Ltd). BP 849 676, Sept. 28, 1960. Through BCIRA 41: 430 (1961).
Knitted nylon fabric is pierced with a tool carrying needles arranged in a pattern on a plate that can be heated. The loops are thus distorted and set by the heat in a permanent device. The main intention is to print the maker's name permanently on the welts of nylon stockings. (1744)

SEAMLESS HOSIERY MACHINERY. J. J. McDonough (to Scott & Williams, Inc.). USP 2 971 358, Feb. 14, 1961.
Mechanism for the single feed knitting of a loopers' course following the multifeed knitting of the toe. (1745)

CIRCULAR HOSIERY MACHINE. A. Landry (to Scott & Williams, Inc.). USP 2 971 360, Feb. 14, 1961.
Air blast means for positioning a heel pocket for takeup without interference from wrap yarns. (1746)

KNITTING MACHINE. F. Eberl (Austria). USP 2 972 242, Feb. 21, 1961.
In a knitting machine comprising two opposed needle beds, only a single row of sinkers is used, permitting closer spacing of the needle beds so that a fine mesh 1 x 1 rib can be knitted. (1747)

AUTOMATIC KNITTING MACHINE. R. J. Good (to Fred C. Good & Sons). USP 2 972 243, Feb. 21, 1961.
Modification of standard flatbed, full-fashioned machines so that it can be easily converted for knitting either half or full gage fabrics. (1748)

YARN SUPPLY TENSION COMPENSATOR. R. P. York and O. R. York. USP 2 972 245, Feb. 21, 1961.
Device for feeding highly elastic yarn as required by the knitting elements without causing undue slack. (1749)

POSITIVE NEEDLE CAM MOTION FOR FULL-FASHIONED KNITTING MACHINE. A. J. Cobert (to Beautiful Bryans, Inc.). USP 2 972 874, Feb. 28, 1961.
Vertical needle motion with separate cam and follower connections for effecting the upward and downward movement of the needles and with provision for an automatically controlled idle coursing of the needles in a low inoperative position. (1750)

PNEUMATIC DRAWOFF MECHANISM FOR CIRCULAR HOSIERY MACHINES. P. L. St. Pierre (to Hemphill Co.). USP 2 972 875, Feb. 28, 1961. (1751)

Fabrics C4

CARPETS. W. F. Smith and J. F. Wood (to Imp. Chem. Inds. Ltd). BP 847 127, Sept. 7, 1960. Through BCIRA 41: 98 (1961).
Carpets are backed by a polyurethane, applied as a foam by spraying. (1752)

FABRICATING CARPET UNITS FROM WASTE TIRE CARCASSES. H. L. Lea (to D. W. Moor Rubber Corp.). USP Reissue 24 937, Feb. 21, 1961. Original No. 2 930 729, Mar. 29, 1960.
See abstr. 2193/60. (1753)

GAS FILTERS. A. E. Johnson and E. J. Higham (to United Kingdom Atomic Energy Authority). BP 846 495, Aug. 31, 1960. Through BCIRA 41: 100 (1961).
The glass fiber mat is soaked in an emulsion of silicone oil, a wetting agent and water, the emulsion is broken in the mat by means of a high-pressure air jet, and the mat is dried in hot air. (1754)

POLISHING CLOTHS. T. Jacques (to Westhulme Textiles Ltd). BP 847 304, Sept. 7, 1960. Through BCIRA 41: 66 (1961).
A tubular length of dyed rayon eyelet knitted fabric is turned inside out, stitched across to create a number of compartments, and folded along the stitch lines to provide twice as many cleaning surfaces as there are stitch lines. It may be lined with interlock knitted fabric. (1755)

ELASTIC UPHOLSTERY MATERIAL. Heberlein & Co. AG. BP 847 428, Sept. 7, 1960. Through BCIRA 41: 102 (1961).
Woven or knitted fabric containing crimped nylon, polyester, vinylic or polyacrylonitrile yarns on which is spread and bonded a layer 2 or 3 cm thick of foam rubber. The fabric, if woven, may have two-way or one-way stretch; thus, it may have crimped yarn as both warp and weft or cotton warp and crimped nylon weft. (1756)

WOVEN HINGES FOR JOINING PAPERMAKERS FELTS. T. Hindle (to Scapa Dryers Ltd). BP 847 646, Sept. 14, 1960. Summary in BCIRA 41: 212 (1961). (1757)

MULTIPLE PLY POLYVINYL CHLORIDE CONVEYOR, ELEVATOR, OR TRANSMISSION BELTING. J. Lewis (to Rubber Improvement Ltd). BP 848 005, Sept. 14, 1960. Summary in BCIRA 41: 213 (1961). (1758)

ACRYLIC FIBER PAPERMAKERS FELT. Stockholms Superfosfat Fabriks AB. BP 848 929, Sept. 21, 1960. Summary in BCIRA 41: 428 (1961). (1759)

BRAIDED CARPETS. P. D. MacCarvill (to Irish Ropes Ltd). BP 849 141, Sept. 21, 1960. Through BCIRA 41: 429 (1961).
Strip material such as heavy braid is laid down in contiguous coils or in zig-zag fashion and secured by means of a fabric backing and heat-sensitive adhesive. (1760)

METHOD AND APPARATUS FOR MAKING COTTON BALLS. Johnson & Johnson. BP 849 223, Sept. 21, 1960. Through BCIRA 41: 384 (1961).
Card web is divided into strips of predetermined length on a doffer roll of a carding engine, and each strip is individually removed by a stripping comb and simultaneously rolled into a ball. (1761)

HEAT SEALABLE WOVEN LAUNDRY MARKING TABS. H. Meyer and P. Meyer (to Polymark Ltd). BP 849 439, Sept. 28, 1960. Summary in BCIRA 41: 427 (1961). (1762)

WARP KNITTING MACHINE FOR PATTERNED PILE CARPETS. J. L. Hubbard (to Firth Carpet Co.). USP 2 971 359, Feb. 14, 1961.
The face yarn is fed into the fabric from spool frames set according to a prearranged design for each pile row of repeat. (1763)

SOIL AND WEAR RESISTANT PILE CARPETS FROM ACRYLIC FIBERS. T. A. Feild, Jr. and C. W. Davisson (to Union Carbide Corp.). USP 2 971 245, Feb. 14, 1961.
The pile yarn consists of substantially nonoriented acrylic fibers having a high degree of opacity and a surface covered with minute nodes ranging in size between 2 and 30 microns. (1764)

PILE WIRE FOR LENO-TYPE LOOM ASSEMBLY. R. O. Sparling. USP 2 971 539, Feb. 14, 1961. (1765)

YARN TENSIONING AND CONTROL MECHANISM FOR MULTIPLE NEEDLE CARPET TUFTING MACHINES. M. B. Penman (to Magee Carpet Co.). USP 2 971 722, Feb. 14, 1961. (1766)

CONVERTING INDIVIDUAL ASBESTOS FIBERS INTO COHERENT BODIES. W. Wilke and H. Fetzer (to Rex Asbestwerke Graf von Rex KG). USP 2 972 221, Feb. 21, 1961.
A dispersion of asbestos fiber in a liquid (e.g. a solution of rubber, cellulose acetate or a synthetic resin) is forced through a nozzle of the desired cross-section, and coagulated as it emerges (e.g. by heat). (1767)

NONDIRECTIONAL WARP KNITTED PILE CARPETS. R. S. MacCaffray, Jr. (to C. H. Masland & Sons). USP 2 972 244, Feb. 21, 1961.
Method of knitting loop pile warp knit carpets to reduce or eliminate shadowing effects due to pile inclination. (1768)

RESILIENT CUSHIONING PAD. I. E. Muskat and J. J. Klein (to Fiber Bond Corp.). USP 2 972 554, Feb. 21, 1961.
A matrix of randomly arranged fibers with intercommunicating voids is impregnated with a foamable resin to coat the fibers without filling the voids completely and heated to cause the resin to foam. (1769)

SCRUBBING MACHINE FOR ON-LOCATION CLEANING OF PILE-TYPE CARPETS. E. J. Keating, A. S. Cooper, Jr. and A. M. Walker (to U.S. Secy. Agri.). USP 2 972 769, Feb. 28, 1961. (1770)

TUBULAR WOVEN COTTON PICK SACK. D. W. Kern and C. Taggart (to Riegel Textile Corp.). USP 2 972 799, Feb. 28, 1961. (1771)

CELLULOSE TRIACETATE PILE FABRIC. D. Finlayson, B. Krzesinski, and A. W. M. Cooke (to Brit. Celanese Ltd). USP 2 973 018, Feb. 28, 1961.
The pile contains short lengths of triacetate yarn in which the twist has been set by increasing the degree of crystallinity by heat or steaming. (1772)

FINISHING D

Chemical processes D1

ANTISTATIC DRESSING FOR POLYETHYLENEGLYCOL TEREPHTHALATE FILAMENTS OR FIBERS. Vereinigte Glanzstoff Fabriken AG. BP 845 688, Aug. 24, 1960. Through BCIRA 40: 4739 (1960).
The agent is made by heating a polyethylene glycol with an alkyl ester of metaphosphoric acid and adding the product to hot stearylamine or triethanolamine. (1773)

FLAME-RETARDANT UNSATURATED POLYESTER RESIN COMPOSITIONS. L. Williams and R. Sidlow (to Peter Spence & Sons). BP 837 696, June 15, 1960. Through BCIRA 41: 105 (1961).
The composition is obtained by dissolving a suitable resin in an ethylenically unsaturated monomer having a terminal :CH_2 group (e.g. styrene) and blending it with an antimony triallyloxide, acrylate, methacrylate, crotonate or allyloxide/acrylate and a highly chlorinated compound. (1774)

TREATMENT OF RAYON. W. A. S. White (to Imp. Chem. Inds. Ltd). BP 844 943, Aug. 17, 1960. Through BCIRA 40: 4537 (1960).
Rayon fabrics are freed from oil and size by treatment in open-width as follows: solvent extraction at 80-87° C in one or more baths of tri- or per-chloroethylene; flashing off solvent in water at 90-95° C; running through an alkaline peroxide solution; steaming, washing, and drying. (1775)

BLEACHING BATH. Deutsche Gold und Silber Scheideanstalt. BP 845 063, Aug. 17, 1960. Through BCIRA 40: 4538 (1960).
The bleaching agent (for cellulosic and synthetic fibers) is a permonosulfate, e.g. Caro's salt, $KHSO_5$, but its tendering action on cellulosic materials, due to the low pH of its solutions, is overcome by the addition of oxalic acid or sodium oxalate. (1776)

SHRINKPROOFING CELLULOSIC FABRICS. E. Robbart. BP 845 118, Aug. 17, 1960. Through BCIRA 40: 4548 (1960).
The fabric, conditioned to 60% rh or dried, is passed through a chamber into which an organosilicon halide is sprayed so as to create a fog at about 75° F, allowed to dwell for 20-30 sec, run through an alkaline bath, rinsed and dried on a tenter. (1777)

PROCESS OF TREATING CELLULOSIC TEXTILE FABRICS WITH ORGANOSILICON HALIDES. E. Robbart. BP 845 119, Aug. 17, 1960. Through BCIRA 40: 4549 (1960).
A separate claim is made for the water repellency that results when the shrinkproofing treatment in an organosilicon fog is carried out on conditioned fabric. (1778)

WATERPROOFING AGENT. J. C. Somerville (to Imp. Chem. Inds. Ltd). BP 845 651, Aug. 24, 1960. Through BCIRA 40: 4803 (1960).
The agent is a polysiloxane compounded with an organotin oxide and a metal octoate (e.g. Zn, Sn, or Pb). (1779)

RESIN IMPREGNATED AND COATED PAPER, TEXTILE AND LIKE FABRIC SHEETS FOR USE AS SURFACING MATERIALS. U. Holtschmidt (to Th. Goldschmidt AG). BP 845 821, Aug. 24, 1960. Through BCIRA 40: 4799 (1960).
The paper or fabric is impregnated with a melamine resin that flows readily under pressure (i.e. a resin of a low degree of precondensation), dried if desired, and then coated with a rapidly hardening melamine resin. (1780)

STEAM EXTRACTION SUCTION HOODS. S. Hall and A. J. Brooks (to Hall & Kay Ltd). BP 846 356, Aug. 31, 1960. Through BCIRA 41: 89 (1961).
A hood on which steam cannot condense is built up of tubular members, some or all of which are heated, e.g. by steam, supporting a metal covering in direct contact with the heated elements. (1781)

FLUORESCENT BRIGHTENING AGENTS. Farbenfabriken Bayer AG. BP 846 148, Aug. 24, 1960. Through BCIRA 40: 4794 (1960).
The agents are colorless methines obtained by the condensation of aromatic and heterocyclic aldehydes with compounds having active methylene groups, e.g. malonic, acetoacetic and cyanoacetic acids and their esters, amides and anilides. (1782)

IMPARTING A DRIP-DRY CREASE-RESISTANT FINISH TO CELLULOSIC FABRIC. H. B. McCance and F. R. W. Sloan (to Bleachers' Assoc. Ltd). BP 846 287, Aug. 31, 1960. Summary in BCIRA 41: 101 (1961). (1783)

MANUFACTURE OF COATED BELTING. F. W. Warren (to Dunlop Rubber Co. Ltd). BP 846 548, Aug. 31, 1960. Through BCIRA 41: 96 (1961).
The fabric is run through a rectangular slot (fitting fairly closely) in a heated die through which a plastic composition is simultaneously extruded. (1784)

TEXTILE FINISH. K. H. Armstrong. BP 846 554, Aug. 31, 1960. Through BCIRA 41: 95 (1961).
Mixtures of polyvinyl acetate with 3-10% of melamine formaldehyde resin are claimed. (1785)

MACHINE FOR WASHING OPEN-WIDTH PRINTED CLOTH. S. T. S. Stamperia Tessuti Serici. BP 846 802, Aug. 31, 1960. Summary in BCIRA 41: 94 (1961). (1786)

PROCESS FOR THE CHEMICAL CLEANING OF TEXTILE MATERIAL. Boehme Fettchemie GmbH. BP 847 017, Sept. 7, 1960. Through BCIRA 41: 128 (1961).
Drycleaning solvents, e.g. perchloroethylene, are mixed with 0.1-10 g/l of primary amines of the type derived from the fatty acids of tallow or coconut, and also up to 1% of water. (1787)

DEVICE FOR LIQUID-TREATING ARTIFICIAL THREADS TRAVELING IN PARALLEL RELATIONSHIP. L. Jori. BP 847 030, Sept. 7, 1960. Through BCIRA 41: 16 (1961).
The threads travel side by side through liquid contained in a tray. Vertical slots at the ends of the tray serving for the overflow of the liquid and for thread guides are created by rows of pegs spaced not more than 2 mm apart. (1788)

METHOD OF RENDERING KNITTED FABRICS RESISTANT TO RUNS. S. O. B. Ljungbo. BP 847 126, Sept. 7, 1960. Through BCIRA 41: 97 (1961).
An acrylic adhesive is applied in small spots, uniformly spaced in staggered rows. A stencil, e.g. of the silk screen type, may be used and impregnation and drying may be assisted by blowing or suction. (1789)

WASHING AND AFTERTREATMENT OF ARTIFICIAL THREADS. Vereinigte Glanzstoff Fabriken AG. BP 848 424, Sept. 14, 1960. Through BCIRA 41: 172 (1961).
The threads are arranged as a flat sheet of closely-spaced parallel threads and made to travel up an inclined plate the lower end of which dips into a treatment liquid. The sheet carries enough liquid to form a layer over the plate. A guide roller at the bottom serves to lead the sheet into the bath and up the plate, and a roller at the top of the plate wipes off excess liquid. (1790)

PROCESS FOR IMPROVING THE WATER-ABSORPTION CAPACITY OF NYLON. Farbenfabriken Bayer AG. BP 847 194, Sept. 7, 1960. (Addition to BP 788 688.) Through BCIRA 41: 103 (1961).
Polyamide fibers, filaments or fabrics are sprayed with a methanol solution of a polyamide in which 30-38% of the NH groups are substituted by hydroxymethyl or ethoxymethyl groups and a polyester made from glycol and succinic acid. (See abstr. 2790/58.) (1791)

HOSIERY FINISHING MACHINE. E. E. Bellmann, R. Kronsbein, and F. Bellmann (Germany). BP 847 274, Sept. 7, 1960. Through BCIRA 41: 106 (1961).
The forms are mounted on two endless conveyors the closed circuits of which both pass through a common vessel for spraying, steaming, drying, etc. Any additional treatment stations are provided symmetrically on both tracks. (1792)

BLEACHING COMPOSITIONS. J. C. M. van Embden and J. Boldingh (to Unilever Ltd). BP 847 702, Sept. 14, 1960. Through BCIRA 41: 275 (1961).
A bleaching agent for addition to domestic detergent powders consists of the double compound of urea with a permono- or dicarboxylic acid (e.g. percaprylic, perlauric, mono- or dipersebacic or mono- or diperbrassylic acid) or an acyl peroxide derived from a similar higher mono- or dicarboxylic acid. (1793)

PROCESS OF BLEACHING COTTON TEXTILE MATERIALS. Farbenfabriken Bayer AG. BP 847 725, Sept. 14, 1960. Through BCIRA 41: 243 (1961).
Cotton fabric is run through a bath containing an optical whitening agent (of the substituted stilbenedisulfonic acid series), mangled, rinsed, mangled again and then run through a bleach liquor (peroxide or hypochlorite). (1794)

DRYCLEANING APPARATUS. M. Boehler and F. Weber (Germany). BP 847 809, Sept. 14, 1960. Summary in BCIRA 41: 273 (1961). (1795)

PRODUCING A DECORATIVE EFFECT IN A TEXTILE. Teodolinda Brenna. BP 848 258, Sept. 14, 1960. Through BCIRA 41: 246 (1961).
A polymerizable adhesive is applied to the material according to a pattern, the adhesive is polymerized, and apertures are made according to a pattern, by means of a punch and die, through the coated parts. Colored cellulose powder may be sprinkled on the adhesive before this is polymerized. (1796)

WATERPROOFING AGENTS. J. C. Somerville (to Imp. Chem. Inds. Ltd). BP 848 336, Sept. 14, 1960. Through BCIRA 41: 247 (1961).
The agent is a solution in an organic solvent of an organopolysiloxane and an ester of zirconic acid. The impregnated fabric is dried and baked, e.g. at 150° C. (1797)

METHOD AND APPARATUS FOR METAL COATING GLASS FILAMENTS. H. B. Whitehurst and W. H. Otto (to Owens-Corning Fiberglas Corp.). USP 2 963 739, Dec. 13, 1960. (1798)

MERCERIZING COMPOSITIONS. G. W. Hedrick (to U. S. Secy. Agri.). USP 2 974 002, Mar. 7, 1961.
The use of pinonic acid to enhance the penetration of the mercerizing solution without objectionable skin irritation is claimed. (1799)

CELLULOSE FLAMEPROOFING AGENT. J. R. Costello, Jr. (to Victor Chem. Works). USP 2 964 377, Dec. 13, 1960.
The reaction product of an anhydrous ammonia–phosphorus pentoxide with an aqueous solution of ammonium hydroxide is claimed. (1800)

ANTISTATIC DRESSINGS FOR SYNTHETIC FIBERS. O. Albrecht, A. Berger, and A. Maeder (to Ciba Ltd). USP 2 965 517, Dec. 20, 1960. (1801)

METHOD AND APPARATUS FOR COATING CONTINUOUS GLASS FIBERS. H. L. Wolfe (to Johns-Manville Fiber Glass Inc.). USP 2 968 278, Jan. 17, 1961. (1802)

APPARATUS FOR WET PROCESSING OF FABRICS. K. Nasu and S. Niwa (to Sando Iron Works Co. Ltd). USP 2 969 664, Jan. 31, 1961.
Means for facilitating the treatment of fabric lengths in a tank for long periods of time in ply formation by the use of a vertically spaced turnstile for supporting the fabric plies. (1803)

FOAM-COATED FABRICS. J. R. Caldwell (to Eastman Kodak Co.). USP 2 970 119, Jan. 31, 1961.
Fabrics coated with polyester urethane foams derived from dialkylmalonic compounds are claimed. (1804)

CONTINUOUS PROCESS FOR EMBOSSING AND VENTING VINYL RESIN COATED FABRICS. P. F. Wangner, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 970 345, Feb. 7, 1961. (1805)

PILE FABRIC WATER-REPELLING AND FINISHING PROCESS. H. Krauss, H. Moses, and E. Liebman. USP 2 970 363, Feb. 7, 1961.
Synthetic fiber fur-like fabrics are sprayed with a combined water repellent and luster liquid from a spray gun at a pressure of 25 to 35 lbs/sq in. and then subjected to a flow of hot air. (1806)

CONTINUOUS BLEACHING OF BULK COTTON FIBER. V. M. Kumin and J. H. Hollister (to Kendall Co.). USP 2 970 882, Feb. 7, 1961.
The cotton is introduced in an uncompacted mass into a conveyor system and at a number of points along the system is subjected to direct contact with caustic and bleaching reagents. (1807)

THERMAL DESIZING OF GLASS FABRICS. M. R. May (to Hess, Goldsmith & Co.). USP 2 970 934, Feb. 7, 1961. (1808)

COMPRESSIONAL WORKING OR FULLING OF FABRICS. L. Bidgood, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 972 177, Feb. 21, 1961.
Improved hand, resilience, and softness in fabrics containing at least 60% manmade fibers by wetting the fabric and subjecting it to compressional working in a gaseous medium at 100–210° F for at least one hour. (1809)

WATER-REPELLENT DISPERSIONS. D. M. Musser (to Chicopee Mfg. Corp.). USP 2 972 548, Feb. 21, 1961.
An aqueous dispersion of a methylene aliphatic diamide which is stable and can be stored and shipped without separation of its phases is claimed. (1810)

WET PROCESSING OF FABRICS. F. J. Clendening, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 971 241, Feb. 14, 1961.
Method for preforming fabric into a continuous, multiple layered loop in readiness for loading onto a rotary carrier. (1811)

CHEMICALLY MODIFIED COTTON. A. L. Bullock and J. D. Guthrie (to U.S. Secy. Agri.). USP 2 971 815, Feb. 14, 1961.
Partial ethers and esters of cellulose of a relatively high degree of chemical modification with retention of desirable fabric properties and elimination of stiffness are obtained by reacting the cotton fabric with a cross-linking agent and then modifying by aminization, carboxymethylation, sulfoethylation, phosphonylation, etc. (1812)

FLAME AND/OR WATER RESISTANT FINISH FOR CELLULOSE FABRICS. N. J. Glade (to Am. Cyanamid Co.). USP 2 971 929, 2 971 930, and 2 971 931, Feb. 14, 1961.
Aqueous dispersions of an aminotriazine aldehyde resin, a waxlike compound melting above 100° F and containing one or more hydroxylated acyl groups of at least 12 C atoms, a hydrophilic colloid, and a dispersing agent are claimed as water repellent finishes (2 971 930). The addition of an aliphatic phosphoramidate (2 971 929) or monomethylol dicyandiamide and a phosphoric acid (2 971 931) results in a flame resistant finish as well. (1813)

WEB REELING. A. Korsch, B. Salzuflen, and W. Schlicht (to Benteler-Werke AG). USP 2 973 157, Feb. 28, 1961.
Method and apparatus for reeling fabrics in a double layer for storing and transportation particularly during wet processing. (1814)

PRESHRINKING HIGHLY ORIENTED, LOW-PRESSURE POLYOLEFIN FILAMENTS. W. Jurgeleit (to Vereinigte Glanzstoff-Fabriken AG). USP 2 973 242, Feb. 28, 1961. (1815)

APPARATUS FOR FABRIC CONDITIONING. S. W. Speers (to Am. Viscose Corp.). USP 2 973 635, Mar. 7, 1961.
Apparatus for uniformly incorporating moisture into a fabric before, during, or after finishing without wetting. (1816)

CHEMICALLY MODIFIED WOOL. N. H. Koenig (to U.S. Secy. Agri.). USP 2 974 003, Mar. 7, 1961.
Wool exhibiting increased resistance to acids and alkalis is obtained by treatment of the wool with isocyanates in the presence of dimethylformamide. (1817)

Dyeing and printing D2

PROCESS FOR DYEING POLYOLEFINE OR POLYVINYLIDENE CHLORIDE FILAMENTS. Vereinigte Glanzstoff Fabriken AG. BP 838 687, June 22, 1960. Through BCIRA 40: 4542 (1960).
Monoazo dyes are used that carry long-chain alkyl substituents; e.g. the dye obtained by diazotizing p-cetylaniline and coupling with p-nonylphenol. (1818)

PREVENTION OF THE CORROSION OF MOLTEN METAL BATHS USED FOR DYEING. Badische Anilin und Soda Fabrik AG. BP 838 691, June 22, 1960. Through BCIRA 40: 4543 (1960).
An acetylenic alcohol is floated with the dye liquor on the molten metal. (1819)

DYEING ASSISTANT. J. G. Kennedy and G. S. Roberts (to Whiffen & Sons Ltd). BP 840 357, July 6, 1960. Through BCIRA 40: 4015 (1960).
A non-oiling mixture of aromatic amine and enolic coupler for use in azo dyeing is obtained by dissolving them in alcohol and adding the solution to water containing an anionic dispersing agent. (1820)

DYEING PROCESS FOR POLYACRYLONITRILE. J. G. Graham and H. R. Hadfield (to Imp. Chem. Inds. Ltd). BP 841 020, July 13, 1960. Through BCIRA 40: 4018 (1960).
Basic dyes are applied to polyacrylonitrile textiles in the presence of a weak organic acid (e.g. acetic) and a mixture of the three types of surface active agent--anionic, cationic (in equivalent amounts) and nonionic. (1821)

DYEING SHAPED ARTICLES OF POLYESTERS OR CELLULOSE TRIACETATE. Farbenfabriken Bayer AG. BP 841 169, July 13, 1960. Through BCIRA 40: 4017 (1960).
Diphenyl carbonate or a ring-substituted derivative is used as carrier in the application of disperse dyes. (1822)

TEXTILE ORNAMENTATION. W. Bragg, G. Landells, and J. H. Leach (to Bradford Dyers' Assoc.). BP 841 226, July 13, 1960. Through BCIRA 40: 4019 (1960).
Materials of the Terylene type (especially heat-set) are embossed and dyed with the help of a swelling agent. The compressed regions dye very much more deeply than the surrounding regions. (1823)

DYEINGS AND PRINTS ON TRIACETYL-CELLULOSE WITH p-AMINO-AZO COMPOUNDS. Badische Anilin und Soda Fabrik AG. BP 844 784, Aug. 17, 1960. Summary in BCIRA 40: 4540 (1960). (1824)

DYEING OF CELLULOSE TRIACETATES. H. C. Olpin and J. A. Bright (to Brit. Celanese Ltd). BP 845 752, Aug. 24, 1960. Through BCIRA 40: 4795 (1960).
Cellulose triacetate materials are padded with diethylene glycol diacetate or the like and dyed with azo or disperse dyes by conventional methods. (1825)

DYEING NITROGENOUS FIBERS. R. C. Noyes. BP 845 764, Aug. 24, 1960. Through BCIRA 40: 4796 (1960).
Wool, silk, nylon, and polyacrylonitrile materials are treated in a first bath with sulfuric or hydrochloric acid and an aminonaphtholsulfonic acid or naphthylamino-sulfonic acid, then in a cold, second bath of sodium nitrite. (1826)

SILICON-CONTAINING AZO TRIAZINE DYES FOR DYEING GLASS FIBERS. D. L. Bailey and R. M. Pike (to Union Carbide Corp.). USP 2 963 338, Dec. 6, 1960. (1827)

SCREEN PRINTING AUTOMATIC PRINTING PASTE FEED CONTROL. R. R. Laupman (to Gebr. Stork & Co. Apparatenfabriek NV). USP 2 966 844, Jan. 3, 1961. (1828)

MECHANISM FOR RAISING AND LOWERING THE FRAME IN AUTOMATIC FABRIC PRINTING MACHINES. I. Sagnier Vidal (Spain). USP 2 967 476, Jan. 10, 1961. (1829)

LEVELING AND STRIPPING AGENTS. R. C. Keller (to Sandoz Ltd). USP 2 967 755, Jan. 10, 1961. (1830)

ATOMIZER SLEEVE FOR SKEIN DYEING. L. L. Walmsley (to Am. Viscose Corp.). USP 2 968 175, Jan. 17, 1961. (1831)

DIAZOAMINO PASTE FOR NEUTRAL STEAM DEVELOPMENT. A. Bolleter and E. Moser (to Ciba Ltd). USP 2 970 030, Jan. 31, 1961.
The use of salts of halogeno-fatty acids in the development of prints in neutral steam is unnecessary when the paste contains, besides a coupling component as used for ice colors, a labile diazoamino compound of the formula given. (1832)

METHOD OF TREATING PILE FABRICS. W. W. Rankin, H. K. Townsley, and T. A. Feild, Jr. (to Union Carbide Corp.). USP 2 970 362, Feb. 7, 1961.
Deformed and flattened thermoplastic fiber pile of piece dyed fabric is restored to its original condition by heating the fabric to soften the pile while vibrating the fabric to return the pile to an upright position. (1833)

SOLUBLE VAT DYE PRINTING PASTE. E. Kaplan and I. Von (to Am. Cyanamid Co.). USP 2 970 880, Feb. 7, 1961.
The incorporation of a solubilizing agent such as polyvinylpyrrolidone to prevent dye crystallization is claimed. (1834)

PRINTING PASTES FOR INTAGLIO PRINTING. C. A. Kumins, J. Fine, and V. L. Chase (to Interchemical Corp.). USP 2 971 458, Feb. 14, 1961.
Printing pastes for use in intaglio printing are thickened by foaming to a desired viscosity by means of air or other permanent gases. The viscosity is maintained by excluding air from contacting the paste in the vicinity of the engraved cylinder. (1835)

VAT DYE DISPERSIONS. A. E. Moran and E. Kaplan (to Am. Cyanamid Co.). USP 2 971 812, Feb. 14, 1961.
Concentrated vat dye pastes stabilized against loss of fluidity by the incorporation of polyvinylpyrrolidone are claimed. (1836)

DYEING ACRYLIC FIBERS WITH AZO DYES. W. Kruckenberg, L. Nussler, J. Singer, and H. Kleiner (to Farbenfabriken Bayer AG). USP 2 972 508, Feb. 21, 1961.
Azo dyes containing at least one amino group bound to an aromatic nucleus through an ethylene amino group are claimed. (1837)

Mechanical processes D3

AUTOMATIC WEFT STRAIGHTENER. E. M. Allen (to Am. Cyanamid Co.). USP 2 968 856, Jan. 24, 1961.
The weft straightening is controlled by the use of a narrow band of weft yarns treated with phosphorescent material in conjunction with photoelectric cells. (1838)

CONTINUOUS REWINDER FOR WEB MATERIAL. P. Zernov (to Mercury Eng. Corp.). USP 2 969 930, Jan. 31, 1961. (1839)

HEATING ROLLS FOR MIXING OR CALENDERING. P. Walter (France). BP 840 008, July 6, 1960. Through BCIRA 40: 4029 (1960).
The machine has a pair of heating rollers that can be mounted one above the other for calendering or placed side by side for mixing and grinding. The rollers are heated electrically the resistance elements being mounted in masses of copper that occupy the space between the shell of a roller and its shaft. (1840)

NAPPING APPARATUS. I. Pasold. BP 840 440, July 6, 1960. Through BCIRA 40: 4031 (1960).
The abrasive units are rectangular plates surfaced with sand paper. They are oscillated about their centers on the fabric as it is conveyed over a flat table. Three forms of the apparatus are shown; one resembles the electric sanders used in woodwork shops. The tension on the fabric is less than usual in napping processes. (1841)

FABRIC ROLLERS. J. N. Smith and S. Cotton (to Phillips & Sons (Manchester) Ltd). BP 841 050, July 13, 1960. Through BCIRA 40: 4030 (1960).
To prevent lateral slip of a fabric as it is being wound into a roll the fabric is run through the nip of a pair of fluted, resilient rollers having rounded flutes. The rollers are set to grip the fabric, the flutes intermeshing, and the tension is controlled by the speed of the rollers. (1842)

APPARATUS FOR FOLDING BED SHEETS AND LIKE ARTICLES. Tvattbolaget i Malmo AB. BP 847 031, Sept. 7, 1960. Through BCIRA 41: 130 (1961).
A laundry folding machine in which rectangular articles are conveyed on a belt to lifting and gripping devices controlled by electric sensing means is fitted with a number of these units divided into two equal sets so that if required the articles may be folded into three parts as well as two and four. (1843)

SINGEING YARNS. F. C. Price (to Imp. Chem. Inds. Ltd). BP 847 845, Sept. 14, 1960. Through BCIRA 41: 197 (1961).
Protruding fibers from yarns of the nylon and Terylene type are removed by running the yarn through a V-groove created by a pair of electrically heated metal strips bent into zig-zag shape. The fibers are severed by the sharp edges of the succession of hot surfaces. (1844)

APPARATUS FOR TENSIONING BINDING MATERIAL USED IN BELTING MANUFACTURE. W. W. Spooner (to Spooner Dryer & Eng. Co. Ltd). USP 2 969 204, Jan. 24, 1961. (1845)

SLAT-TYPE EXPANDER FOR STRETCHING FABRIC. F. Lembo. USP 2 969 578, Jan. 31, 1961. (1846)

Drying, setting, conditioning D4

APPARATUS FOR PRODUCING A UNIFORM BAT OF FIBROUS MATERIAL FOR DRYING. J. E. Fleissner, H. Fleissner, and G. Fleissner (Germany). BP 845 849, Aug. 24, 1960. (Addition to BP 838 649.) Through BCIRA 40: 4740 (1960).
The conveyor belt, needle drum, suction drum, and needle roller (for stripping the needle drum) for forming a bat of fiber are arranged so close together that the suction is effective in the gaps between (1) the needle drum and conveyor belt, and (2) the needle drum and needle roller. (See abstr. 5124/60.) (1847)

HOT AIR DRYER. Maschinenfabrik Benninger AG. BP 840 972, July 13, 1960. Through BCIRA 40: 4033 (1960).
The fabric travels through the hot flue in festoon formation and propeller fans are arranged above and below the upper and lower sets of guiding rollers. These fans are connected with upper and lower steadying chambers. Air is blown from the upper chamber into the upwardly open loops, sucked away by the lower fans and blown into the lower chamber. From this it is blown into the downwardly open loops, sucked away by the top fans and blown into the top chamber. (1848)

APPARATUS FOR TREATING TEXTILE MATERIALS TO SECURE DIMENSIONAL STABILITY. Redman Process Intern. Inc. BP 846 124, Aug. 24, 1960. Through BCIRA 40: 4801 (1960).
The fabric is carried in relaxed condition through a steam chamber on a bed of closely spaced rotating rollers. As the fabric sags between each pair of supporting rollers it travels with a wave-like flexing motion. (1849)

APPARATUS FOR EXTRACTION OF WATER FROM TRAVELING, SELF-SUPPORTING WEB OF PAPER OR OTHER ABSORBENT MATERIAL. Stiftelsen Pappersbrukens Forsknings Inst. BP 847 319, Sept. 7, 1960. Through BCIRA 41: 107 (1961).
The wet material is run through a mangle with a porous, endless mat. The mat passes around the bottom mangle bowl and various rollers, including drying rollers, most of the water it picks up being thrown off by centrifugal force, out of the way of the web, which, from the nip of the mangle travels on tangentially to the bowls. (1850)

APPARATUS FOR CONTROLLING MOISTURE CONTENT IN FABRIC DRYING. H. Eicken (Switzerland). BP 847 537, Sept. 7, 1960. Summary in BCIRA 41: 109 (1961). (1851)

FIBER FEEDING APPARATUS FOR DRUM DRYERS. H. Fleissner and G. Fleissner (Germany). BP 849 835, Sept. 28, 1960. Through BCIRA 41: 380 (1961).
The mass of fiber is loosened by the plucking action of toothed wheels and the loose fiber falls onto the surface of a perforated drum in which suction is set up so that the fiber is held until it is passed on to the drying drum. (1852)

DRIVE FOR FABRIC DRYING ROLLERS. B. F. H. Mellbin (Sweden). USP 2 966 746, Jan. 3, 1961. (1853)

TEMPERATURE CONTROL APPARATUS FOR RAW COTTON DRYERS. R. E. Fishburn (to Minneapolis-Honeywell Regulator Co.). USP 2 968 874, Jan. 24, 1961. (1854)

HEATING OR DRYING OF SHEET MATERIAL IN FLUIDIZED BEDS. J. Doleman, C. Hulme, and W. V. Morgan (to Brit. Rayon Research Assoc.). USP 2 971 242, Feb. 14, 1961.
A tenter is used to control the width of sheet material running through a hot fluidized bed, e.g. a bed of glass spheres (ballotini) 0.2 in. diameter. The edges of the fabric are engaged by a pair of link chains running in box-like guideways with such a small clearance that the bed particles do not escape. The chains have laterally extending arms or plates provided with pins or clips at their ends. (1855)